Paths to Development

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Paths to Development

Imelda Romualdez Marcos

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Prologue

THIS BOOK is about the human condition in the modern world. Literature on the subject is nowadays fashionable, especially the kind which propounds ideas that the world is ending. I do not hold a similar grim notion, though I agree that the human condition today and for most part of the present century has been grim. It is particularly so because mankind in past ages never suffered such vicious onslaught of crises. The Furies seemed to have conspired to put our age in a convergence of crises. Besetting and buffeting us today is a host of crises: the energy crisis, the environmental crisis, the population crisis, the urban crisis, the monetary crisis. Moreover, our age has been the arena of the most tragic of moral crises mankind ever experienced. The stigmas of the two World Wars, of the nuclear holocausts in Hiroshima and Nagasaki, and of the covert use later of deadly germicides or biocides in warfare have forever sullied the moral heritage of our generation.

The global crises that now task our sanity are bewildering because they are novel. According to Mesarovic and Pestel, our crises have a nature basically different from past crises man encountered and surmounted. So we cannot entirely rely on past human experiences for clues to our own dilemmas. If not from natural calamities, the great crises that troubled past generations mostly arose from political, racial or religious schisms. The present crises cannot be so predicted, because they transcend political or ideological differences and cut across social and geographic barriers. Furthermore, these crises are interrelated with one another. And since the individual issues overlap, the old technique of applying isolated solutions to isolated problems is no longer effective.

Widespread violence against person and property, the pollution of the environment, the extinction of precious species of flora and fauna, and the despoliation of our natural resources are some of the physical manifestations of the crises our world confronts. People commit them wantonly, if not self-righteously. I believe that the destructive tendencies, as well as the apathy and cowardly resignation displayed by man today, indicate the decadence of our moral and spiritual values. The basic human values recognized by all societies of whatever ideology, race or religion are under siege. Their validity is being challenged by nihilists, whose tribe is growing and spreading from its breeding place in the West to all other parts of the world.

How then shall we resolve the *problematique humaine*? The complex, intertwined character of the crises converging in our midst suggests a holistic approach. A technocrat confronted with this challenge would be inclined to propose an integrated program featuring a mix of infrastructure, technology and manpower resources that would tackle all the crises simultaneously. Would this solution suffice? Undoubtedly it can effect a physical transformation, but that is not enough. The approach must go deeper into the roots of our discontent. It must reshape our attitudes now biased against the basic human values. Faith in the goodness of man must be restored.

I am aware that the moral and spiritual aspect of the *problematique humaine* is a very difficult dilemma to resolve.

Modern man finds it easier to concentrate on material problems because he has at his command vast information and knowledge of his physical environment. I do not denigrate such preoccupation nor the role of science and technology in improving the quality of our life. Scientific knowledge, however, is value-free and impersonal, a tool that can be used for either good or bad ends. It is a boon to human development, but a bane when manipulated by the wrong hands.

To neutralize the destructive forces that became part of man's awesome powers requires, to my mind, not only the rechanneling of scientific know-how and more scrupulous use of technology but also the development of new lifestyles consistent with the constraints imposed by nature on man. In other words, by recognizing the limits of our power we are actually liberating ourselves from the prison of our modern cultural values which have come to rule our lives. In Buddhism this deliverance is akin to its Middle Path of Liberation. Our search for insights into the nature of the *problematique humaine* may well start from there.

We must liberate the inner self of man from the synthetic and mechanical environment he himself created. People today, especially in the big urban centers, react to life in terms of their encounter with machines. A house is not a home without the latest gadgets, fixtures and equipment which guarantee the family instant comfort, amusement and status symbol. Outside, life moves along with the automobile and elevator, while the telephone, the typewriter, the calculating machine and the computer have become man's indispensable work companions. And so the drone of mechanical vibrations, the glare of neons, the odor of chemical fumes, the texture of concrete, steel and plastic objects now dominate the ambiance of modern cities, which are growing rapidly in number.

Aided by the physics of Galileo and Newton, man's consuming fascination with machines began with the advent of the Industrial Revolution in the eighteenth century. Since then, and as new inventions and discoveries further enlarged the mechanical cosmos, mechanism became a creed and a religion with its own hierarchy of priesthood. It decreed that all human problems were amenable to mechanical solutions. Most of us are still under this delusion.

In man's passage through time, every age and every culture inevitably leaves a statement that fixes its vision of the nature of man and his universe. The Egyptians immortalized their vision in their Pyramids, the Greeks in the Parthenon, Europeans in their medieval clocks, and our own Ifugaos in their rice terraces. Will modern man pick the computer as the symbol of his civilization?

The electronic computer is the epitome of mechanical reasoning. I marvel at its incredible memory and mathematical powers; as a tool, it could be the greatest invention of our age. But the computer is not and can never be a substitute for the human intellect. No amount of knowledge fed to the most sophisticated computer will enable it to duplicate the human mind's capabilities. For only man is capable of thoughts derived from inspirational insights, intuition, contemplation, meditation. The human mind alone has the ability to perceive what is true, good and beautiful. Thus, man alone is the judge and final interpreter of reality. Plato's wisdom alluded to this fact. "Recall," he said, "how in that communion alone, through beholding beauty with the eye of the mind, one will be able to bring forth not merely images of beauty but reality itself."

In 1972 a team of social and physical scientists from the Massachusetts Institute of Technology published its study of the human condition based on a computerized world model. This was *The Limits to Growth,* a book that became an immediate international sensation mainly because of its doomsday thesis. The controversy over the study's assumptions and conclusions is still raging. But merits or demerits of the book aside, what alarms me is the trend it has set. The unhesitating, uncritical and passionate defense of the computerized forecasts indicates to me the beginning of the deification of the computer.

The Limits to Growth is a very interesting book, a modern classic which eloquently expounds the thesis that the global system, or the earth's interlocking resources, cannot support the present rates of economic and population growths. Consequently, it predicts, the entire global system will collapse by the year 2100. Not even the most sophisticated technologies man can devise, it adds, can avert the disaster. Only absolute zero growth can.

We cannot totally stop either population or economic growth. I refuse to believe, however, that inability to do so would doom our planet to the tragic end predicted. The predilection for prophecy is understandable because deep secrets always intrigue the imagination and natural curiosity of men. Oracle by computer is a brilliant exercise of this predilection, but it has an inherent weakness. Listen to the French political philosopher Bertrand de Jouvenel:

> It is utterly implausible that a mathematical formula should make the future known to us, and those who think it can would at once have believed in witchcraft. The chief merit of mathematicization is that it compels us to become conscious of what we are assuming.

The search for solutions to mankind's predicaments must go beyond technology. With the marvelous technologies it generated, science has risen to supreme heights in our time; but alone it cannot provide all the answers or the guidance we want. For it has been said that if we know nothing except what science tells us, we would be aware only of the bones of the universe, of its mechanics. We would know nothing of its flesh and its spirit.

Actually, the critical problems of our age are such because of their systemic nature. For instance, the ecosystem problems are intimately linked with problems in the industrial system, which in turn affect the resource-population system. Thus, any perturbation in one system results in reverberations in the others. The American environmentalist Barry Commoner explains this phenomenon as the First Law of Ecology: that "everything is connected to everything else."

The peculiar nature of our problems today requires that we view them in their totality, not by separate fragments as past approaches used to do. This systematic, holistic frame of mind will enable us to deal with all aspects of the problem, including how it interconnects with problems in other spheres. We must recast the centuried ways of doing things which favored analysis rather than synthesis, hardware rather than software, differentiation rather than integration, and the rational-physical rather than the spiritual-metaphysical. These narrow-minded techniques are like the worship of the computer in the method of *The Limits to Growth;* both represent the limits of the vision of the men who use them.

Our mechanical culture imposed a tunneled vision of reality that admittedly revealed the essence of some of its parts but not of its entirety. To see the whole, we must cultivate a multidimensional awareness that will call to play the combined powers of our instinct, our intuition, our mind and our feelings.

We must free the human spirit and liberate the human values from their present bondage. This is what this book is all about; the direction, I propose, that should guide our growth as human beings and as residents and members of the global village. I do not claim a monopoly over this idea. The great religions of the Orient are suffused with thoughts bearing the same message, and I am awed by their contemporary relevance.

I have stressed the need to refurbish our sense of basic human values and, in passing, let me quote the reaction of the Club of Rome (itself an often pessimistic observer of the human condition) to *The Limits to Growth*. The statement is self-explanatory:

> We are convinced that realization of the quantitative restraints of the world environment and of the tragic consequences of an overshoot is essential to the initiation of new forms of thinking that will lead to a fundamental revision of human behavior and, by implication, of the entire fabric of present-day society. . . .
>
> We affirm that any deliberate attempt to reach a rational and enduring state of equilibrium by planned measures, rather than by chance and catastrophe, must ultimately be founded on a basic change of values and goals at individual, national, and world levels.

The thesis of this book rests on my belief that by using *right concepts, right organization* and *right technologies,* we can provide for the basic needs of man and society with the *right quantity* of the *right quality* at the *right time* for the *right goal.* These are the elements or "bricks" of the paths to development. Here, I deliberately used the term *right* as a common adjective to emphasize that I mean it to be the integrating word standing for the cardinal virtues of *justitia, fortitudo* and *temperantia.* As explained by E.F. Schumacher in *Small Is Beautiful, justitia* corresponds to Truth, *fortitudo* to Goodness and *temperantia* to Beauty.

Our quest for right purpose, right concepts and right organization will necessarily take into account the store of knowledge, insights and wisdom from both West and East as well as from recent and ancient times; so too, if I may, our own experience and vision as a people of a proud race and now a proud nation.

This treatise was written not with the scholar's penchant for rigid documentation and objectivity. I employed no computer models or laboratory proofs, nor even a rigorous analysis of the facts. I simply related my beliefs based on the collective wisdom of mankind, on the revelations of reality as perceived by scientists, philosophers and artists working together, and on the thoughts that struck me as I reflected on my role as a woman, a mother, a citizen, a public servant and a human being.

Also, this book is not a vision of or a blueprint for utopia. Readers will probably find here a mosaic of images of a viable alternative future, which I attempted to focus on so that these will compel us to think, to seek greater enlightenment and to move. I am offering a rough idea of the landscape of reality. Some of its landmarks are visible enough, but some are hidden from our eyes. We must uncover these hidden landmarks to know where we are, where we are going, to attain growth and fulfillment.

Right Concepts

Chapter 1

THE TWENTIETH CENTURY is entering the twilight of its days. Significantly, in this century also ends the millennium which gave to human development a Renaissance, an Age of Enlightenment, an Industrial Revolution and a Nuclear Age. With this turning point being so near, prognostication and futuristic speculations are therefore rife. Most of them, unfortunately, speak darkly and with much pessimism over the lot awaiting mankind. Serious misgivings are expressed about what man has done and continues to do to destroy his future. Many so-called futurists have even gone to the extreme of predicting a doomsday for the social order and eventually the extinction of the human species.

The prevailing mood of pessimism reflects the dilemma of our time, beset as we are by a convergence of crises no other age or civilization ever experienced. This mood has been contagious. First endemic only in the West, it spread quickly enough during the seventies to become what it is today—a worldwide phenomenon that manifests itself in people's lives as ennui, anxiety, hopelessness and defeatism. Pessimism, to be sure, is only a state of mind. But it became so pervasive in our time as to generate the present palpable ambiance of apocalypse. The "sense of an ending" that permeated much of modern literature is no longer a mere artistic theme. To the popular mind, it is no longer fiction but a fact it is afraid of but can do nothing about.

In retrospect, however, the sense of doom is an ancient though still puzzling millennial syndrome. On the eve of the tenth century, or when the first millennium was about to turn, people were seized by a similar apocalyptic dread. They had their own prophets, who admonished them to repent, repent, as the end of the world was near. That was the panic of Armageddon circa A.D. 1000.

As predicted, by the eleventh century Earth shall have been a desolate planet. Of course none of the cataclysms expected to ruin it so ever occurred. It was in fact a very quiet shift. Some changes did herald the dawn of a new millennium, but they were so undramatic compared to the succeeding events.

Retrospection affords us the benefit of hindsight. Through the study of history we can, so to speak, travel backward in time to examine the events that took place during the second millennium and put them in their proper perspective. A dispassionate study is likely to yield the fact that it has been a millennium of tragedies as well as of triumphs, of decay as well as of growth, and of inhumanity as well as of humanitarianism. Disastrous wars, famines, depressions and other hardships did come to pass, but so too did the flowering of high art, the great scientific advances, the voyages of discovery. In short, the pattern of events that happened during the present millennium simply manifested the eternal flux or tides of human development, ebbing but also rising and flowing endlessly.

Future historians, who in their turn shall then acquire the same advantage of hindsight, will probably say that our generation has overacted in confronting its crises. They may even chuckle at the frantic efforts we did to magnify our fears, as attested to by the prognoses which have been advanced by various experts who today appear so inordinately involved with forecasting and futuristic projections.

We cannot preclude the spirit in man that makes things possible. The genius of humanity may just suddenly discover unexpected paths and fresh vistas toward human development. On this, I agree with René Dubos that "the creativeness of life always transcends the imaginings of scholars, technologists and science-fiction writers."

However, man is also human in the sense that historical egoism is almost an unfailing characteristic of every age and every generation. Typical examples are the chronicles written by well-meaning writers or else self-serving demagogues claiming that their particular era is a zenith in the development of man. Conversely, that their age was a nadir has also been claimed by scholars and historians in self-depreciation. This human vulnerability is understandable and excusable since a lifetime is but a fleeting moment in terms of astronomic reckoning. We will always be under the constraints of time; a total, perfectly unbiased viewpoint will always elude our grasp. Thus, the least we can do is be tolerant of our interpersonal and intergenerational prejudices.

I do not like to be accused of the same bias in presenting some ideas of our generation. But a number of them are worth noting. For example, I do believe in the assertion that things are in disarray and we are agog today because we are undergoing a crucial transition period. We are parts of a social order, which is evolving revolutionary shifts in its paradigms—in its paradigm of reality, paradigm of morality, of the good life, and of development. Thinkers like Thomas Kuhn are saying that these shifts in paradigm will lead to inevitable cultural and political innovations. It means that the novel cultural and political perceptions now being advocated by only a small but farseeing community of thinkers will ultimately gain more adherents and be accepted as the new social reality.

This transition period naturally involves problems of adaptation. The new emerging paradigms may, indeed, carry such impact as to overwhelm us momentarily. We have to contend with the impact of radically defined goals and organizational setups, as well as with the effects of novel technologies, new timing of development plans, and the quantity and quality of services that would be in demand. These new realities pose serious problems of adjustment, to which the reaction could be what Alvin Toffler called "future shock."

So we need to formulate concepts that will serve as safeguards and navigational instruments for our journey to the future. These concepts need not be necessarily new. We may only have to reshape or repattern some of our traditional ideas and thought processes so that they will now be more efficient, elegant and consistent with the coming paradigms of reality.

Toward a humanized technology

DOWN THE AGES, the wish to know the profound and most devious secrets of the universe has obsessed man. Even when no astronomic instruments yet existed, the night sky with its myriad of shining islands of planets and stars offered to the naked eye endless seductions for imaginings. And so the ancients conjectured notions on the movement and confluence of celestial bodies, divining in them auguries of good or bad fortune for man.

With the invention of the telescope, a bigger cosmic scene came into view and got larger still with the advent of the present radar, satellite and space technologies. But it seems that even as science and technology are able to enlarge man's vision of the universe, some thresholds of impotence forever bar us from knowing everything about the heavens. "There appear to be endless worlds, and worlds within worlds, still to conquer," says Eugene S. Schwartz, "yet every conquest of the known expands the unknown, and that which is conquered once appears anew to be reconquered." Max Born, in writing about the quantum universe, gave the following description of this particular dilemma: "We have sought for firm ground and found none. The deeper we penetrate, the more restless becomes the universe, and the vaguer and cloudier. . . . There is no fixed place in the universe; all is rushing about and vibrating in a wild dance."

Nevertheless, this obsession with the conquest of outer space has become the supreme adventure in our age. The unprecedented explosion of scientific knowledge has propelled modern man to a cosmic journey in search of brave new worlds. He has mastered earth's gravity and built platforms in space that Archimedes only dreamed of. Now, he is going to the planets, a trip which could take him much too far away from his home. Too far away, indeed, it may totally cut him off from his roots, from the humanity he came from. As it is, this alienation is already all too evident in our culture.

Technology has been defined as the application of knowledge for practical purposes. As such, it is neither new nor a distinct achievement of modern civilization; rather, it is a process that originated in prehistoric times and continued across the ages as man passes through the various stages of his development. In fact it all began with the discovery by the Paleolithic man of the use of fire, followed by the invention of simple tools, the development of language and the rudiments of agriculture and domestication of animals during Neolithic times, and on to the discovery of the use of metals, the wheel, and simple machines during the Bronze and Iron Ages. It is remarkable that these "technologies" which prehistoric man bequeathed to us are still very much a part of our present life.

To be sure, modern science and technology improved and modified much of this old technical heritage of man, and introduced a host of entirely new, complex and very sophisticated inventions. But here, I think, started the issue on the alienation and dehumanization of man by the machine. The technological process, from the perspective of earlier cultures, should be a creative act. As it is also demonstrated in our own cultural heritage, historians have pointed out that in earlier times technology melded with every facet of the human personality in such a way, as Schwartz phrased it, that "the act of agriculture was at one and the same time a social event, a religious affair, a magical rite and a productive art. The construction of a canoe blended the life of the tree with the act of man in felling it, hollowing it out and consigning it to the water. Art and decoration, ritual and incantation, work and play blended in the creative act." With the onset of the Industrial Age this is no more.

Technology became separate, impersonal and seemingly with a life of its own. And because it exudes power, efficiency and a certain unnatural beauty, modern man is enamored and intoxicated by its wonders. By this fascination with the machine, moreover, he has come to assume not only the image of his mechanical inventions but also its dialectics. Science and technology are inherently pragmatic, utilitarian and value-free. The basic human values, ethics, morality, or the sense of right and wrong have no place in them. In other words, science or technology is interested not in the *why* but rather in the *how* of things.

Perhaps, the time has come to alter this hubristic destiny. In this effort, the metaphor of our age could well be mankind personified by Rodin's sculpture, *The Thinker,* or man deeply contemplating, this time what he is going to do with the accumulating debris of his mechanical inventions.

What has been wrong with the matter, notes Hazel Anderson, is man's propensity for creating hardware and neglecting to provide the software. Here, software refers to the interactive participation of man with the operation of the machine. It means the codification of human values into instructions that will control the machine and thus humanize technology. Hence, provisions for software are vital in enabling us to program the uses of technology in such a way that it will become subservient to human purposes. However, this may be easier said than done.

It saddens me that people continue to allow technology to dehumanize them. Technology remains an instrument of war, an excuse to assault nature, and a means to satisfy man's greed for wealth and power. In our ordinary, quite innocent everyday life, this dehumanization may look as an innocuous process, painless and even pleasant. But just the same, its profound effect is frightening, as it ultimately posits the equation: dehumanization of man equals deification of the machine. We must reject and resist this equation.

To reverse the process that dehumanizes our lives, we must change course and point our vision to new directions. For this, we may have to avail ourselves of none but our inner selves. Yet from this "self" alone we may be able to obtain the will and the strength needed, as well as the wisdom from being answered what true reality is, what is man, where did we come from and where are we going. Answers to these questions cannot be found elsewhere, as Schopenhauer intimated in the following quotation:

> We can never arrive at the real nature of things from without. However much we may investigate, we can never reach anything but images and names.

Most scientists become evasive and noncommittal when questions of transcendental nature are posed to them. This is quite all right since by training, the scientific mind is objective, logical and reductionist. It is the mind, I grant, that has studied the littlest to the largest of natural phenomena to expand our knowledge of man's environment and physical universe. However, another environment and another universe lie seemingly beyond its reach. This is the environment of man's inner self, the universe within him. Like the physical cosmos, it is as much a valid universe to be explored. For scientists it may be far easier to decipher the constituents of the nucleus than to unravel and fully comprehend the essence of the self. I believe, nonetheless, that if man is endowed with a mind that can formulate the physics of the nucleus, so is he similarly endowed with the intuitive faculty to discern the metaphysics of the inner self.

Penetrating the universe within is perhaps an agony because of the operation of Niels Bohr's Principle of Complementarity—that the more familiar we become of the external universe, the less sensitive we tend to be in matters of the spirit. The Western industrial enterprise system is a living example of the crux of this principle. The system harnessed the marvelous potentials of technology and, true enough, the move yielded dazzling material gains. It brought in labor-saving devices, improved health, leisure and other amenities. But it failed to produce lasting human happiness or real satisfaction or peace of mind. I think the failure results from the unbalanced emphasis placed by the system on the rational. Again, René Dubos has a relevant point about this. "Pure rationalism," he said, "degrades wisdom, and technocratic thinking reduces man into a machine."

A balance between the physical and metaphysical, between reason and intuition, between mind and spirit, between hardware and software—this is the goal we should aim for. Those familiar with ancient Oriental wisdom would identify the "harmonies" I speak of as corresponding to the Buddhist Middle Path of Liberation. It is a venerable precept which I believe also rests on the recognition that man is an entity of body, mind and spirit; again a time-worn dictum, but a perception now filled with exciting possibilities in our quest for a better life.

A common humanity

OUR QUEST for a better life must start at old beginnings, at the primeval roots of the tree of man. For instance, in a number of caves discovered that used to be home to the Neolithic man, archaeologists have found artifacts and faded drawings etched on the rock walls. We may obtain clues from these relics, more particularly in the faint signals drawn on the stone surface. This primitive artwork may actually startle us with the eloquent simplicity and relevance of its meaning.

One such antiquity is the Altamira Cave paintings, discovered in Santander Province, Spain. On beholding it, we are transposed to the dawn of man's development some 20,000 years ago. Here is a stirring testament, an exquisite and eloquent imprint of what man possessed since immemorial time: his creative skill and spirited courage.

The cave paintings retained their polychrome tone and defiantly survived the eons of wear by natural corrosive elements, as if to proclaim the power and invincibility of the human spirit that created them. To me, then, this Stone Age masterpiece is both a human statement of and a call for the celebration of life.

The paintings depicted a ferocious hunt of the bison. For our cave-dwelling ancestors, grim forays like it were veritable life-or-death encounters. They must prove and reaffirm their right to survive and exist by continually matching their skills with other creatures or with harsh elements of their environment. The bison hunt could result in either the slaughter of the hunted or the death of the hunter. In effect, therefore, the Altamira mural is a celebration of man's victory over odds in his struggle for survival. It is also a statement eloquently revealing the humanity possessed by those cavemen, their inborn sensitivity and capacity to create beauty.

The humanness of prehistoric man clearly indicates the existence of a continuum, a bond of fraternity, between him and modern man. We not only received from him the blueprint of our own physiological and mental faculties; we also share with prehistoric man the instinctive and intrinsic longing for those eternal values that should govern our lives: for Truth as in the truth of battle, for Goodness as in the goodness of compassion and for Beauty as in the beauty of art.

I hold that this predilection for the true, the good and the beautiful is a basic and immutable human trait. It is the very essence of humanness, transcending the barriers of race, creed and culture. The Stone Age man as well as all people that ever lived then and today are trustees of these cardinal values without which human existence will have no meaning.

Arnold Toynbee once said: "Scratch the surface and efface what we receive from an education which never ceases and we shall discover something very like primitive humanity in the depths of our nature." I will add that this "primitive humanity" is our capacity to feel love, joy, pity and compassion in response to our innate sense of the true, the good and the beautiful.

I agree with the assertion that "each human being is unique, unprecedented, unrepeatable." I see no inconsistency between this statement and the contention that there exists an invisible web binding all men to a common humanity. To qualify as a human being is to possess the attribute of humanness. All of us, in full or less than full measure, have this humanness.

I further agree with exponents of cultural relativism that the norms of truth, goodness and beauty are the consequences of particular cultural and historical settings. True enough, but the relativists speak more of the superficial differences in the interpretation of the concept rather than of its quintessence. For example, the great religions of the world do indeed differ in their beliefs, such as in the origin of the cosmos or in the ultimate destiny of man. Closer study, however, will reveal the presence of a single thread running through the multitude of religious beliefs and rituals. For all men, of whatever faith, a spiritual convergence exists linking all believers from time past to the present. This is clearly evident in the similarity of the basic tenets of morality observed in all human societies.

Note this inscription in an ancient clay tablet unearthed in Sumer and dated thousands of years before Christ:

> . . . Do not go into the garden of a poor mother and take wood therefrom or gather tax in fruit therefrom.

Or this injunction from the ancient Buddhist text of Sutta-Nipata:

> Let none cajole or flout his fellow anywhere;
> Let none wish others harm in dudgeon or in hate.

Or these lines from the *Upanishads:*

> Both the good and the pleasant present themselves to men. The wise, having examined both, distinguish the one from the other. The wise prefer the good to the pleasant; the foolish, driven by fleshly desires, prefer the pleasant to the good.

And, this is how Will Durant summarized the ethics of Plato:

> Justice is not mere strength, but harmonious strength-desires and men falling into that order which constitutes intelligence and organization; justice is not the right of the stronger, but the effective harmony of the whole.

So simply stated as they are, I am touched, as many have been, by the truths expressed in these ancient precepts. And to be so touched confirms my beliefs and the ethics by which I try to live by. Among others, I believe that there is a common humanity that makes all men equal in the real sense—a humanity which, in the famous words of Joseph Conrad, "is a gift, not an acquisition, our capacity for delight and wonder . . . our sense of pity and pain . . . the latent feeling of fellowship with all creation . . . and the subtle but invincible conviction of solidarity that knits together the loneliness of innumerable hearts . . . which binds together all humanity . . . the dead to the living and the living to the unborn." Firmly re-establishing and cultivating this common humanity may not cure all the problems of the world today, but it can provide directions, a framework of meanings, and a norm of sensible and sane behavior or relationship between and among individual persons, institutions and nations.

A thinking heart, a feeling mind

ALMOST A GENERATION now spanned the time since C.P. Snow aired an issue which continues to disquiet intellectuals today. Snow charged that Western civilization was slowly being sundered apart by the ambivalence and divisiveness growing in the ranks of the intelligentsia. He bewailed that minds cast in the scientific mold were tending to draw away from and lose contact with those in the artistic-humanistic disciplines. Snow warned that this polarity of interests and insularity of concerns would redound to a tragedy, both intellectual and practical, for mankind. The cultural divide would surely abet the growth in each camp of a discourse alien and incomprehensible to the other. This would atrophy human creativity and degrade the sum of man's cultural heritage, which includes his art, science and technology.

In our time, I think the ominous cultural drift detected by C.P. Snow has become a palpable, accelerating divergence with the scientific-technologic ethos assuming to itself the dominant role. Now, bureaucrats plot the destinies of nations assisted by a priesthood of scientists and engineers. Business and other modern institutions also follow the lead by depending on these people for the efficiency of their operations. Meanwhile, the syndromes of disaffection with the other culture are apparent. I am not alone in perceiving the spread today of a malaise, a discontent with the artistic-humanistic tradition. A noted American critic of cultural trends, for example, said that "in the humanities, demoralization has reached the point of a general admission that humanistic study has nothing to contribute to an understanding of the modern world." Continuing, he noted that: "Philosophers no longer explain the nature of things or pretend to tell us how to live. . . . Students of literature treat the text not as a representation of the real world but as a reflection of the artist's inner state of mind. . . .Historians admit to a sense of the irrelevance of history."

The cultural divide does appear to many as an unbridgeable chasm. But I am not dismayed. I consider the scientific-technologic culture as a manifestation of the genius of the human brain. The artistic-humanistic pursuits of man are, on the other hand, the expression and outpouring of his irrepressible spirit. If this is so, then we must combine, blend and simultaneously cultivate the two cultures to achieve the wholesome development of man. An overemphasis on one over the other could result in distorted development or the mutilation of human nature itself. For it has been said that with his culture, man creates himself. If it should then continue, the present cultural divergence could rear two breeds of *Homo sapiens,* the dehumanized technocrat and the superstitious artist.

I believe that the wholeness of man is the indivisible coalescence of body, mind and spirit. We must align and direct our culture, our total development and our ultimate concerns toward this wholeness. The dominating hold of the technocratic culture with its emphasis on cold rationality and the language of the machine has all but stunted the spiritual growth of man. While it is true that science and technology could provide us the tools and the power to harness natural forces for the benefit of man, it is the spirit—that fountainhead of ethical values—to which we must return for directions and meanings to our human existence. Will and Ariel Durant, in their book *The Lessons of History,* pondered the cultural dichotomy:

> How inadequate now seems the proud motto of Francis Bacon, "knowledge is power"! Sometimes we feel that the Middle Ages and the Renaissance, which stressed mythology and art rather than science and power, may have been wiser than we, who repeatedly enlarge our instrumentalities without improving our purposes.

How our modern culture in turn bastardized the ancient values and put them in a pseudo-utilitarian context was trenchantly noted by Lewis Mumford, who wrote:

> The exuberance of the artist was now attached to machines and utilities. To the ancient categories of the good, the true, the beauti-

> ful, a fourth was added—the useful. This was a valuable addition; but the utilitarian managed to spoil their contribution by treating it as a total replacement. *Truth* was what worked: that was the pragmatism of science, practiced long before William James's belated formulation. *Beauty* was what raised the price of finished goods, transforming them from comforts to luxuries. *Goodness*, human goodness, was essentially the capacity to do more work.

Spiritual impoverishment was the human cost of the material progress achieved by the Industrial Revolution. And the toll goes on into our time in the present century, building not the hoped-for technological utopia but an age of despondency, a *L'Epoque de Malaise*. Lest we totally succumb, now then is perhaps the hour to revive the dream for another renaissance preceded by a spiritual revolution and a moral transformation that shall redefine and redirect our goals and purposes. I address this longing more in sympathy with the world beyond our shores, for, in a sense, the developing countries of Southeast Asia are less unfortunate than their Western neighbors. In Southeast Asia the spiritual resources are still vigorous and intact, and technological industrialism has not yet overwhelmed the public mind. The opportunity to resist or reverse the Law of Complementarity is still wide open. We still have plenty of time on our hands to contemplate the human condition, to determine the bearings of our existential voyage and to adopt the needed precautionary measures. However, our distance from chaos is never far and is steadily shortening. This is why I have cause to advocate the re-examination of our preconceived ideas, attitudes and predilections. We must consult our heart and mind. We must acquire a thinking heart and a feeling mind.

Ethical Entelechism

AS HUMAN BEINGS, we inhabit not only the physical or natural environment but also the man-made milieu of symbols, ideas, words and value systems. This other universe is the domain of our cultural heritage. It is a world similarly in perpetual transmutation and change, as evolution dictates that new symbols replace or reinforce the old in order that we may widen our perspectives and our powers of discrimination and choice. This imperative is rooted in the transcendent nature of our being. Man is unique as a species precisely because of his symbolic activities. His art, rituals, religion, myth, music and dance celebrate this uniqueness and nourish him just as food and water nourish his body. For man is intrinsically a creature with body, mind and spirit. These basic attributes are in no way mutually exclusive, although one may be poor in body but rich in mind and spirit. And the latter state comes to one who is sensitive to the symbols, values and images of human society. To be unaware and ignorant of them is to suffer a poverty worse than the lot of the beggar, for one becomes a more pitiful social outcast to be a derelict in the mainstream of symbolic human enterprises that transcend the banality of our existence and lift it to a higher plane.

I mentioned that the true atmosphere of development requires an invigoration of our value system. To achieve this, we need to create new symbols for the values we want to instill. These symbols need not be remarkable for their novelty. But they should be effective as to evoke social acceptance and positive response from our fellow men.

Furthermore, I feel no necessity to erect a new philosophical school that will, in effect, simply rationalize existing symbols and images into a coherent, logical structure. That effort would again deify rationality, an approach that had been tried and no doubt enriched human experience in the past but not today. The grand philosophical systems put forth by Kant, Spencer, Schopenhauer and Hegel influenced the society of their time, but hardly do they now illumine the labyrinths of our present world. These philosophical systems are obscured by abstractions that are incomprehensible to the common man. We need something more timelessly basic and impervious and innate to the real nature of man.

That man is an entity possessing *body*, *mind* and *spirit* and that he instinctively responds to the *True*, the *Good* and the *Beautiful* have been the persistent themes in the exhortations of earlier sages from both the East and the West. Moreover, all the great religions speak of love and compassion as desirable human traits. These beliefs intimate to me the basic nature of man's being. The goodness and the power within us may be dormant, but they wait to be stirred, to be ignited and to light our path to growth and fulfillment.

I do not claim that what I now assert is a fresh, new vision. Visionaries, like futurists, sometimes lose their way in looking too far outward and forgetting to look within. I claim, rather, the wish that people would rediscover themselves by rediscovering the ancient verities—those simple truths that have been buried under the debris of numerous ideologies, philosophical systems and the intellectual noise of modern life.

My belief that Truth, Goodness and Beauty are a spell under which man is inspired to excel is self-evident in the human developments that have elevated mankind. The uncompromising dedication to *Truth* led science to discover physical wonders. *Goodness* provided religion its force and compelling influence upon man's life. And *Beauty* motivated the artist to create his immortal work of art. In man, therefore, these virtues coalesce in his science, religion and art to nourish his body, mind and spirit. I believe also that this approach to the essential nature of man liberates us from the anguish of existentialism with its futile investigation into the essence and meaning of human existence.

Perhaps the occasion demands that I give the belief I share a name to integrate it to the body of symbols and images we want to perpetuate. I call it *Ethical Entelechism.* Ethical, because Truth, Goodness and Beauty are to be considered normative guidelines to the definition of human purpose and behavior; Entelechism, because entelechy refers to the innate nature of anything which determines its growth and development.

It is not my intention to promote Ethical Entelechism as an ideology. I wish only that it will serve as a force field which will realign the galaxy of human symbols, images and ideas. It should serve also as the key to the concepts discussed in this book, i.e. right goals, right organization, right technology, right quantity, right quality and right timing.

I hope that as the metaphysical foundation of our philosophy of development, Ethical Entelechism will enrich and ennoble our mental environment.

The beginning of survival

IT IS DIFFICULT to forget the poignant sentiment of the great American Indian chief Seattle, who expressed the languor and pain of the impact of industrialization and technology on the American landscape in these words:

> That destiny is a mystery to us, for we do not understand when the buffaloes are all slaughtered, the wild horses are tamed, the secret corners of the forest heavy with the scent of many men, and the view of the ripe hills bloated by talking wires. Where is the thicket? Gone. Where is the eagle? Gone. This is the end of living and the beginning of survival.

Perhaps the time has come to re-examine technology—the basis of industrial affluence. Technology has touched our lives in some positive ways, but it could also be destructive if it is not humanized. Although technology has eliminated some diseases and brought us a lot of amenities, comfort and pleasure, it has also disfigured the earth, polluted its waters and air, and disturbed the harmony of nature.

It is time to assert a new view of man and his technology. I believe in *ecological humanism,* which recognizes the intrinsic values of natural processes and the integrity of these processes to be crucial to the survival of man. It negates the notion that man is the lord and master of his surroundings, with the self-declared right to dominate all other living creatures. Ecological humanism holds that all living things—be they high or low in the order of existence—are linked with one another in an intricate and complex web of life. This web is fragile, and yet, like the handiwork of a spider, it can stand buffeting, but only if we abide by what it takes to survive. However, ecological humanism, in the truest humanist tradition, acknowledges the centrality of man and the human condition as the final object of our concern.

We must learn, as we are learning now in the Philippines, how to use our natural resources without debasement, how to manipulate natural forces without destruction and how to husband other living creatures without threatening their survival.

Ecological humanism sees man as the steward of the biosphere and our link with nature as so intimate and compelling that we must bewail any infringement of this interdependence.

The environmental crisis results not only from the disturbance of the cycles of nature but from distorted values arising from the wrong conception of the nature of man. The industrial development of the West, for instance, is based on materialism and the control of nature to feed the increasing appetites of an industrial civilization. This is evident in the designs of industrial cities, which are synthetic, detached from nature and contaminated with sewage and other industrial debris.

Imagine the children growing in these concrete industrial jungles detached from the divine mysteries of nature and the rhythms of the biosphere. These children stand to lose a great measure of their spirituality as unsuspecting victims of industrial affluence. They will live and grow up in an environment without natural beauty, and so lose their ties with the earth. They will live like aliens in their own planet, denied of an affinity with and reverence for nature, and so they could become the agents of further ecological violence. Their lives will be marked by *"premature combustion"*—the burning of their souls in energetic pursuit of material pleasures—resulting in the exhaustion of their spirits and their alienation from nature which sustains them. This phenomenon emerges from the propensity of affluent industrialized countries to gorge the earth's energy and natural resources in disregard of the consequences.

As we foster reverence for natural processes, we could also learn its important operating principles. For instance, the great biologist Alfred Lotka pointed out that one of the criteria for natural selection in the evolution of species is the maximization of the use of energy for useful purposes. In other words, species that use nutrients and energy efficiently are favored to survive in the natural world. This is in contrast to the predilection of the modern world for premature combustion. Lotka's principle indicates that the present direction toward Western industrial development is not likely to be the favored path of human evolution.

Ecological humanism is one of the key concepts in our search for new directions. The environmental crisis is the unmistakable signal that development cannot be pursued at the expense of ecological balance. In spite of man's technological achievements, we have not yet transcended our biological heritage. Man is a creature of the earth, and the earth's continuing viability as a habitable planet is the first prerequisite for survival.

Right Goals

Chapter 2

IT IS PARADOXICAL that the dizzying twist and turn of events that so afflict our time with crises are also acting as a catalyst, prompting us to be receptive to change, prodding us to recast our perspective and redefine our goals. It is no surprise then that *The Limits to Growth* led to the birth of another book, *Goals for Mankind.* This book reflects the vitality of current positive thoughts. It warns that if our goals are unrealistic, narrow and shortsighted, then the present global problems will end in catastrophes.

So we need to raise appropriate goals using proper concepts culled from our larger insight into the nature of man and human destiny. We need to search for basically incontrovertible goals that are attuned to right concepts and yet pragmatically attainable. Right goals translate right concepts into behaviorally measurable objectives. Right goals guide our course of action; they provide the directions for our spiritual, social and economic development.

Goals are essentially addressed to needs. For a truly human existence, we must meet the 11 basic needs of ecological balance, food, power, water, shelter, clothing, livelihood, medical services, sports and recreation, mobility and communications, and education. Whether in small or large measure and in varying degrees of fulfillment, all these basic needs must be simultaneously provided in any given community. When this is achieved we assure the *minimum wholeness* of man. Of course, our aspiration is to attain the *maximum wholeness* of man. This is the state where the provision for the needs of the body becomes relatively inconsequential compared with the needs of the mind and the spirit. Our general strategy in pursuing our goals is to guarantee the minimum wholeness in a series of cycles of successive approximations. When everything comes to full cycle with the fulfillment of all these goals, then we can say man has at last achieved his niche in harmony with the natural world and his innate nature. I am being hypothetically roseate in saying this. But I shall cite specific examples and projects. In Chapter One I presented three key concepts which are mutually reinforcing and complementary: ethical entelechism, ecological humanism and humanized technology. Ethical entelechism considers man as an entity of body, mind and spirit which instinctively responds to Truth, Goodness and Beauty. Ecological humanism is the belief that the preservation of ecological balance is crucial to the survival of man. Humanized technology programs the uses of technology in such a way that it becomes subservient to human purposes. These three concepts when applied simultaneously to the definition of human purposes enable us to formulate right goals.

In our country we must give priority to three major goals: survival, human development and national identity. The goals for survival cover those for ecological balance, food, water, power, shelter, clothing, livelihood and medical services. The goals for human development include those of sports and recreation, and education and culture. Finally, the goals for national identity will require, among other things, communications to achieve physical, spiritual and cultural links among the isolated, scattered parts of the country.

Goals for survival

MAN APPEARED on the terrestrial landscape one million years ago, when Earth was already old. He came upon a rugged environment and a multitude of untamed flora and fauna that were often hostile to his survival. Physically, man was not well endowed to stand the rigors of life, but he prevailed and multiplied and acquired more and greater skills to ensure the continuity of the human race. That *Homo sapiens* survived while more than 90 percent of the world's animal life of past eras has since perished attests to the qualities of man which make him unique and seemingly indestructible as a species.

Lately, however, the vulnerability of man's support system has come to be the object of deepening concern. Ecologists warn of grave stresses in the biosphere, that fragile layer of living matter, soil, water and air around us. In concrete terms, environmentalists warn of the alarming rate of natural-resources depletion, the desertification of once fertile lands, pollution, world population growth. Furthermore, modern man has so perfected the art of war that he has the technology capable of destroying all life on earth, including his. Will he use it to carry out a death wish? Bertrand Russell once remarked that only ignorance and incompetence prevented past generations from carrying out their annihilation.

The death wish is part of human imperfection, but the life urge is sufficiently overpowering and will forever be our dominant longing. So, survival of humankind is our foremost goal. It is an instinct hoary with age, as the discovery in Assyria of a clay tablet dated 450 B.C. intimated. Strangely familiar, the inscription warned that "the end of the world is evidently approaching." It expressed the historic doomsday syndrome and inextricably the question of survival. If indeed man is an entity of body, mind and spirit, we must assure the continuous survival of his body in a hospitable habitat before he can fulfill his other potentials.

At the basic and most obvious level, survival depends on food supply. The world has yet to solve the food problem despite agricultural breakthroughs, such as the discovery of high-yielding crop varieties, improved farm technology, modern processing and distribution systems. True, food is hardly a problem in the developed countries; a spinoff of the scientific revolution which began in Germany in the nineteenth century was the invention of artificial plant fertilizers which permitted unprecedented crop harvests without increasing the cultivated land base. Parallel developments like the genetic manipulation of seeds, the control of plant and animal diseases, the introduction of pesticides and herbicides, and better land and water management techniques further ensured the food gains.

Among poor countries, however, millions of people are slowly dying from lack of food. Consider the number of children aged five to fifteen who are undernourished, neglected and languishing in dire poverty. According to statistics taken a few years ago, at least 230 million of them suffer from malnutrition. Access to medical care is denied to 604 million children in the world; 156 million live in slums and squatter colonies. In sum, two-thirds of the world's child population, most of which is found in the least developed nations, faces the loss of the most basic right of all—the right to live.

To be sure, our alarmist tendency is vitiated by a number of redemptive possibilities. Wisely managed, the productive capacity of rich nations, which always produces huge good surpluses, could offset the hunger problem in the rest of the world. In time the population explosion will be checked. Technology transfer and the effective use of innovative, appropriate technologies by Third World countries can improve their lot. To many Westerners the Third World is a paradox. It has immense natural wealth, but why should it go hungry and impoverished amid such plenitude? This paradox, to me, is not hard to explain. The Third World is simply saddled with the problem of unattained potentials.

Aware of our potentials, we Filipinos have initiated food-production programs, two of which stand out in magnitude and impact. These are *Palayan ng Bayan* and *Masagana 99,* which aim to revolutionalize the production of staple food in the country with the use of two complementary approaches. *Palayan ng Bayan* covers the opening of virgin public lands for cultivation to rice and other staple crops. *Masagana 99* boosts the productivity of present ricelands through the propagation of high-yielding seed varieties, extension of liberal credit to farmers, fertilizer subsidy, construction of irrigation and other infrastructure support, and intensive education and information campaigns. Mainly through these food programs the Philippines is now a rice-exporter, helping modestly to satisfy the grain needs of unfortunate people abroad.

I view the innovative agricultural technologies, as well as the technical expertise developed by the Philippines, as a boon to be shared with other struggling nations. Filipinos may not beg for food ever, but we cannot bear to see our neighbors falling prey to hunger.

The food crisis is obviously related to the population problem. Although world population growth seems to be slowing down, the increase is still substantial. It is estimated that mankind will increase to 6,000 million before the end of the century, and to 8,000 million a decade later. This remains a dangerous plateau; the figures need more paring, but not in the way Malthus predicted it could be done.

In this respect, the Philippines has been chosen as a model in the Third World for family planning. In five years the Philippine population program has brought down the country's population growth rate from 3.01 percent to 2.6 percent. This has been accomplished in a predominantly Catholic nation which frowns on artificial birth control. The Church favors the natural (or rhythm) method, under which limitation the success of the population program can be attributed to the discipline among Filipino couples.

Meanwhile, we must also equate survival with the energy predicament. All productive activities will stand still, life will vegetate and die, if power from natural sources of energy is denied our world. The seventies are known as the decade of oil, a benchmark in human development that showed man how vulnerable is his existence. The sudden and dramatic petroleum price increases during the decade upset world economies, made oil-consuming nations recast their national policies, and people to change their lifestyle. Some blame the OPEC nations, but the real villains are us, the profligate oil consumers and stubborn believers of the myth that nature knows no limits. Until then abundant as a cheap and efficient fuel, fossil oil supplied the power that rocketed our century into unprecedented heights of technological achievements. But every gain has a corresponding cost. Our age built an industrial society based on oil at the price of depleting the resource prematurely.

The energy crisis was a blessing in disguise: the shock brought us to our senses. By demonstrating the severity of the error of our total dependence on one energy source, the crisis dramatically affirmed the wisdom of the saying not to put all our eggs in one basket. Moreover, concepts like conservation, recycling and ecological balance have become familiar. As a result, it is easier now to sell the view that human development must be rationalized along ecological considerations. For example, the issue became clear when ecologists brought out the fact that the world consumes around 600 million tons of petroleum a year, while nature, in making it, took 250 million years to produce the fossil fuels.

All the world's oil wells will inevitably dry up. This dénouement should not be mourned for; the loss will be a gain to our environment. The combustion of oil-based fuels pollutes the air we breathe, disrupts the carbon balance of the atmosphere, and alters the earth's heat balance. Among other things, we may see the end of oil spills that have poisoned our seas.

So our goal for survival in a world fast running out of fossil fuel hinges on the search for alternative sources of energy. Among developing countries the Philippines has often been cited for its comprehensive energy-development and exploration program. It has a planning estimate of indigenous energy potentials, classified into what is verified, probable and theoretically possible. The resource profile indicates that the country has reasons to be optimistic about the potentials of its own oil and coal deposits, as well as about the regenerative fuel capabilities of its hydroelectric, geothermal and solar energy. In the context of ecological humanism, the ultimate energy resource would be solar energy. Until it is developed, however, we will first rely on minihydros and geothermal energy as our transition resources.

Nevertheless, potentials alone do not guarantee safety. To survive we must learn how to be self-reliant. We must maximize our involvement in self-help and cooperative undertakings, for it will make us strong individually and as a whole. Corollary to this, the maxim "know thyself" is worth adopting. It will reveal our weaknesses and our strengths, our limitations and our potentials. Knowing one's self is not a selfish exercise. In resource management, for instance, acquiring the knowledge implies a commitment to future generations, as they are proper extensions of our living selves. So we arrive at a management approach integrating the holistic perception and the futuristic viewpoint. The first views the exploitation or disposition of natural resources as ecological humanism; the other reaches out across space and time.

Because man is a social creature, the human community immediately deserves attention. Let me say at the outset that I affirm that the basic goal of all societies is to provide conditions where people can attain the full potentials of man. In the Philippines we have drawn up developmental goals addressed to what we believe are the 11 basic needs of man.

In the Ministry of Human Settlements, we aim to fulfill these 11 basic needs by building on the natural and human resources in the community. Because our target areas are both urban and rural—metropolises, cities, towns and the smallest village units called *barangays*—aids and services to these human settlements necessarily will adapt to the levels and degrees of their needs, but always moving from minimum whole to maximum whole. We expect, and we encourage, each community to develop its own plans and strategies. A philosophy unites all of them toward a common goal—that man is the center and end of all socioeconomic development endeavors.

Task forces of multidisciplinary experts are coordinating the delivery, monitoring and assessment of the program. Environmental engineers are working on inexpensive, indigenous sanitation systems; ecologists are promoting ecological balance; socio-psychologists are taking care of the interpersonal and cultural factors; and other experts and technicians for every field embraced in the 11 basic needs are doing their bit.

The development program is supported by a three-goal strategy. The first, directed at the backward rural areas, aims to uplift the condition of the rural poor, raise their standard of living, and give them the basic amenities. The scheme seeks to create more employment opportunities, establish a wide range of cottage industries and provide greater service facilities in the area. It would identify potential growth areas for development into self-reliant centers, which will in turn reach out to outlying poorer communities.

In accordance with ecological humanism and humanized technology, the second development goal seeks to disperse industrial activities to the countryside. We must curb the tendency of big industries to encroach on the more populous urban sites. Industrial dispersal involves not only the integrity of the urban environment but also the economic benefits of such a move. Spreading the base of industrial activities enhances regional development. Ultimately, investors stand to gain in terms of nearer access to raw materials and labor supply and, of course, fewer environmental constraints. Industrial dispersal points up the improvement of roads, ports, airports and railway systems that link regions to one another. An industrial complex in a rural setting reflects a humanized technology. The tyranny of the machine is easily forgotten when workers live closer to nature.

The third development goal seeks to make the best use of our natural resources without debasing them. Resource-management ideas based on ecological humanism now guide our policy- and decision-makers. For instance, we have adopted the principle of maximum sustainable yield in our forestry, fishery and aquatic resources. This means the adequate harvesting of the matured resource and ensuring that the spared young are enough to perpetuate the species. In managing our mineral resources we are guided by the principle of optimum economic value. Minerals are nonrenewable, but they can be exploited such that their economic value redounds to the greatest good for the greatest number of people for the longest possible time. Ecological tenets also guide us in the most suitable use of land, control of pollution and of soil erosion.

In land use, we have launched the *Bagong Lipunan* Improvement of Sites and Services (BLISS) program. The Ministry of Human Settlements has set up 81 rural BLISS sites with operational livelihood centers. Through the next five years, 300 more sites will be opened every year. These settlements are provided with facilities for basic services to the homeless and the poor.

Goals for human development

GOAL FORMULATION should not stop when survival of the body is assured. The effective management of our food and energy resources may result in satisfying most of our material needs, but that is not everything. It should also address the human mind and spirit. Even those economists who faithfully hand down gross national product estimates every semester as a measure of a country's level of development are no longer content with these economic indices. In the first place, how can statistics convey the emotion or the intensity of feeling in people as they react to economic forces? How can figures gauge a nation's motivation or its will to achieve? Or quantify such virtues as nobility, generosity, artistic sensitivity? How could we express the creative impulses within us? How could we satisfy our innate curiosity about the mysteries of the universe?

As E. Mishan noted: "A sense of our own worth and a sense of the worth of others is being lost in the pursuit of efficiency. The more we become fascinated with the measurable aspects of human achievement, the easier it is to slip into a frame of mind that judges people according to numerical systems. . . .In time we lose sight both of the subtle and engaging facets of the character of each individual and of the intrinsic value of each human life."

Our development goals envision for our countrymen the attainment of the good life along a humanist tradition. We believe in Aristotle, who said that "to be truly human, one must be wholly human . . . one must attain the excellence of body, of the mind, of the spirit." Growth directs the development of man to this goal, because it is his nature to achieve it.

The goals for human development are those associated with the needs of the mind and the spirit. In fact our very humanness is expressed in our mental and spiritual attributes. We transcend mere animal existence because of the reach of our minds and the depths of our spirituality. Our minds perceived the immeasurably small electron and the immeasurably huge galaxies. On the other hand, the expense of our spiritual force is manifested in our creative art and the sublimity of our religions and our moral traditions. Certainly our development efforts will be meaningless if they do not include the development of these uniquely human qualities.

In the minimum, the goals of human development are met through the provision of facilities for education, culture, recreation and sports. Yes, sports—because we need a sound body to house a sound mind: Recreation—because we need to revitalize continuously our faculties through diversions and play.

In many instances, I have emphasized that man should be at the center of development. In physical terms, I sometimes refer to our objective in urban settlement as the creation of the City of Man. What I want to convey is the idea of the proportionate development of human values along with the economic gains and their associated infrastructures. In other words, human development, or the creation of intellectual and spiritual infrastructures. Most of the problems of the world today are the result of the fact that the advances we achieved in the control of natural forces are not matched by advances in our morality and spirituality. This is unbalanced development. The economic gains are tarnished by the decline of our humanity.

Goals for national identity

FOR FILIPINOS the seventies were not only the time of the oil crisis, the monetary crisis or the peace-and-order crisis. They were also a time for an identity crisis. One of the elements of the unrest and turbulence that forced our Government to declare martial law was the violent outburst of misdirected nationalism. I am against the use of violence, but I do share the dissatisfaction of my countrymen as they protested against imperialism, colonialism and alien domination. Their cause voiced a society's craving for identity. The issue then was the assertion of self and the restoration of a nation's birthright.

The search for identity is, however, a far more thorny matter to Filipinos than it would be, say, to the Japanese. History and tradition have something to do with this; the more historically stable a people is, the less constraints there are in the crystallization of collective ideals.

The occupation of the Philippines by foreign colonizers produced an amalgam of unintegrated outlooks, lifestyles and social biases. The cultural influences–Islam, Spanish, Chinese, American and Japanese–bred a colonial mentality among Filipinos. Some of us have been able to internalize the best features of these foreign cultures. But their bad qualities also rubbed off on the Filipinos.

Colonialism deprived the early Filipinos of a base culture, a prerequisite for an easy development of national identity. Hence, as a people we came late to a full realization of who we are, what we stood for, and where our nation should be heading for.

All of us who worked against much odds during the past several years to build a New Society in the Philippines may well be proud of the vibrant sense of national solidarity we now have. We have cast away the inertia of our past; we have come to terms with ourselves. The present Filipino race is not of pure stock, and so it cannot be racist. Rather, the Filipino is a collective character, a product of different cultures and legacies. We were a melting pot; the East and West met in us. So from the perspective of universal understanding, our knowledge of both worlds is also something to be proud of.

A way to optimize our sense of national identity is through participative democracy, or the involvement of the greatest number of citizens in nation-building. We promote this by removing first as much of the ills that plague our society. The agrarian problem is one, to which our response has been a land-reform program that has freed the farmer from "bondage to the soil."

The biggest ill, of course, is the phenomenon of poverty in all its ramifications. It has grown so insidiously the world over that President Marcos has singled out the rebellion of the poor as the outstanding characteristic of our age. He observed that "it is only in our century that the poor have rebelled against entire societies, and against poverty itself."

Our answer is a program for the democratization of wealth. It should not be misconstrued, however, as a radical policy that would confiscate the wealth of the rich. It is an egalitarian idea, but pragmatic enough to recognize that the rich are as much a part of society. There is no furious confrontation then, but a bridging, a narrowing of the gap between rich and poor through grant of equal opportunities to the poor.

Democratization of wealth should not only lead to greater citizen participation in government, which is a sign that we are attaining one of our development goals. It should also generate growth in other directions. For one, the emancipation from poverty should further strengthen our *barangay* system.

The *barangay* is a relatively recent development in our contemporary life, though it was an historic institution among pre-Spanish Filipinos. We revived it, in December 1972, because we thought it could be just as effective in our own time. This small political and administrative unit has now become the mass base of popular government in the Philippines. In practice, it is turning out to be more than that. Our *barangay* is acquiring larger social dimensions, one of which is the heightened sense of society among its members, coupled with a new confidence and the feeling of national identity we have set as a development goal.

In purely physical terms, the provisions for mobility and communications would hasten the growth of a national identity. While transportation and communication networks are essential features of human settlements, in the national scale they enable our country to overcome the constraints of geography and become an organically unified entity. This is why I consider mobility (including communications) a basic need, because it enhances our feeling of national community.

Even in the emerging global village of modern communications, national identity is not an anachronism. We need national identity to face the world with confidence and pride. The tragedy of the flying Dutchman is not that he has no home but that he has no identity and character.

The revival of our cultural traditions in architecture, literature, handicrafts and the performing arts will certainly strengthen our sense of national identity. Our agenda for national development includes this program so that we may rediscover and refurbish our Filipino identity. That this contributes significantly to tourism is a welcome bonus.

Having established our identity we shall be ready to face the world. We are fortunate to be in the crossroads of the East and West. We need to understand the intellectual and spiritual traditions of the East and West to discover our ties and proper place in the world.

"Cogito ergo sum" ("I think, therefore I exist"), wrote Descartes. The philosophy he built in the seventeenth century

around this famous epigram shaped a world view that has deeply influenced Western thinking and half of mankind to our day. Descartes propounded that two realms basically divide reality: the realm of matter and the realm of the mind. The two, he reasoned, are separate and independent entities. In man the dualism fixes the boundary between the pre-eminent rational mind and the bodily functions; conscious will is a thing apart from involuntary instincts. The result is a dichotomy, a splitting of the human personality that makes an individual equate his person more with the mind-identity, rather than with the wholeness of his being.

But the fragmentation goes further into the mainstream of objects and events external to the self. The Cartesian philosophy views the visible, material universe outside man as mere assemblages of different objects. This is the source of the characteristic materialism and mechanism in the outlook Western civilization came to adopt. On a cost-benefit basis, the mechanistic world view advanced the growth of science and technology; it inspired Newton to create the framework of classical physics. Its minus side is the development of an ethos divisive, often violent, and exploitative. The fragmented view of the environment became a rationale for man's use of its resources to the point of debasement. Since the division applies also to social organizations, people are seen disjointed —as this or that distinct race, as political adherents of one party or another, as Catholics, Protestants, Jews, heathens or atheists.

Compare the Western with the Oriental world view, which antedated the West's civilization by hundreds of years. The most obvious difference between them lies in the manner each conceives the physical and spiritual aspects of human life. Eastern philosophy makes no distinction between mind and matter; everything in the world is but reflections of one reality. Accordingly, our senses deceive us when things and events appear to be unconnected phenomena or when we experience ourselves as isolated egos. For that, in any case, is the illusion trapping the unwary and ignorant. But to the true believer, Oriental philosophy offers a deliverance. It starts, on the level of our daily existence, with the perception that all living things depend on each other, being interrelated and interconnected.

On a higher plane, Eastern mysticism takes us to a contemplation of the divine, the ultimate reality, where then we shall tread on strictly religious beliefs. Here, we may as well pause to hear the counsel of Aldous Huxley, who said that "Europeans and Americans will see no reason for being converted to Hinduism, say, or Buddhism. And the people of Asia can hardly be expected to renounce their own traditions for the Christianity professed, often sincerely, by the imperialists who, for four hundred years and more, have been systematically attacking, exploiting and oppressing, and are now trying to finish off the work of destruction by 'educating' them." Huxley was also quick to point out that hope lies in the cultivation of understanding between East and West, that it is "perfectly possible for people to remain good Christians, Hindus, Buddhists or Moslems and yet to be united in full agreement on the basic doctrines of the Perennial Philosophy."

This Perennial Philosophy is a set of beliefs which, Huxley argued, underlies the teachings of all higher religions of both the East and the West. It is to be found in the Vedanta and Mahayana literature, in the Tao Teh King, in the Zen verses, in the Hebrew prophecies, in the Gospel of St. John, in the dialogues of Plato, in Plotinus and in the Areopagite, and among the Persian Sufis and the Christian mystics of the Middle Ages and the Renaissance.

Our present confused and despairing world needs to meditate on the verities and alternatives offered by a philosophy that views the universe of man as an organic unity, that urges us to transcend our wars and quarrels, that affirms the common humanity and brotherhood of all men. A world view based on it will surely help us understand the convergence of crises that now confront mankind.

Peoples and nations, especially the powerful countries, may then be cleansed of rancor and be reconciled. Fearful issues that touch and haunt the lives of every man, woman and child on earth cry out for solution: the arms race, militarism and the threat of a Third World War, the degradation of the environment, the unequal distribution of wealth among nations, the awesome possibilities in genetic engineering that could defeat the meaning of life, and so on.

The Philippines is just a dot on the world map, but, as Alfred Korzybski has said, "The map is not the territory." Our territory can be great if we will think and feel not only as Filipinos, not only as Asians or members of the Third World, but as the astronaut looking across space at his home planet for the first time. The sight reveals to him a world without borders. At such distance, individual nations and their territorial jurisdictions dissolve into mere patterns of land masses and interconnected oceans, showing that in effect our world is only one whole contiguous physical reality. The astronaut's vision should give us a new sensitivity, an awareness that people do not inhabit separate worlds. Interdependencies govern our life, as continents, countries, seas and waterways are so linked, as man is to nature.

In promoting mutuality and understanding among nations, our country can hold firm to its political or ideological convictions yet be accommodating, helpful and hospitable to others who may not share the same tradition. The art of diplomacy should transcend such biases. For our Government, the key to this is an approach that accents mutual similarities and de-emphasizes mutual differences. We believe that meeting and working from shared experience, countries even of differing ideologies can always find common interests and grounds for agreement. Humanists constantly remind us of the reason for this: that the heart of man is everywhere the same. In all men, it beats with longing for Truth, Goodness and Beauty, and will not be stilled.

Right Organization

Chapter 3

FRUSTRATION attends those who profess the best intentions but cannot see how they can be carried out. The same can be said of concepts and goals rightly formulated but unorganized. For organization is the key to the attainment of goals, the agent that transforms concepts and goals into meaningful life patterns and norms.

Earlier, I mentioned concepts like ethical entelechism and ecological humanism, and goals like human survival, the quest for identity, and human development. All of them inevitably bear on organizational operations and practices. The ideal setup, from the viewpoint of humanism, is an organization built on the integrity, creativity and freedom of its members. Economists would add that such an organization must also be efficient. It must adopt systematic division of labor, promote nonrestricting specialization and operate on an optimum scale. Still, and not to be denied, ecologists would impose considerations based on the principles of organizations in nature like ecological niches and species diversity. In short, right organizations are those patterned after right concepts and directed to the right goals.

To our goal of self-reliance, the organizational implication is typified by the resource-sharing practice seen in cooperatives, an institution fast multiplying in our rural areas and called *Samahang Nayon*. Elsewhere the efficient allocation of limited financial resources through budgetary measures is also a manifestation of self-reliance among our people.

As to the goal of national identity, the preservation of our national heritage as a function of right organization has many prototypes. The most notable is the premium now being placed on unique Filipino values by organizations and institutions in the country. Examples of these virtues are: *pagsasarili*, or self-reliance; *pagkakaisa*, or unity on a national consensus; *pakikisama*, or cooperation, sociability and helpfulness; and *pagkabayani*, or readiness to put the common good of the nation above private interests.

Finally, the goal asserting a common humanity and global interdependence finds organizational expression in our foreign relations and trade with other countries. These involve the exchange of goods, personnel and expertise. I would include here some notes on regional cooperation as a subset of this goal. The Association of Southeast Asian Nations (ASEAN) immediately lends itself as a paradigm.

Founded in August 1967, ASEAN has come of age as an organization promoting close cooperation and mutual assistance among its member countries—Indonesia, Thailand, Malaysia, Singapore and the Philippines. It shows its strength in the political and economic influence it now exerts in the region. Among others, ASEAN has been able to speed up growth in the region in the form of increased trade and investment opportunities. But these did not come as a miracle. The Association had been in dilemmas during its early years, and resolved them only through the dedication, perspicacity and determination of its leaders. It had, first of all, to cope with problems rooted in the diverse histories and cultures of the member states. Happily, the ASEAN people found the solution imbedded right in the matrix of their common Oriental heritage. The mentality predisposed to an organic view that sees the separation of things as an illusion worked well here to foster unity among the ASEAN members.

The rest of the world has taken notice of ASEAN and its experience. It is today a highly regarded influential bloc in the United Nations Organization. ASEAN is a good example of a right organization in a regional scale.

Models in nature

NATURE IS REPLETE with models of organization, contrary to the impression of a native urbanite who somehow lost himself in a jungle lush with wild vegetation, crawling insects, shadowy animals and the like.

An ecologist would point out, as a representative sample of organization, the biotic community and its food chain, or food-pyramid structure. Thus, it can be observed that nature arranges itself into communities, such that one community, or a biocoenesis, occupies a specific environmental complex, or a habitat. Communities and habitats in turn are organized into a hierarchy. In the sea, for example, there are plankton for a group of small, microscopic organisms drifting in the water; nekton for larger, free-swimming species; and benthos for organisms in the bottom.

The food chain is a vital area of relationships in a community. Typically, a food chain is like a series of graduated links. In the animal chain the first link usually consists of some "key-industry" animal, small but present in enormous numbers. The succeeding links are made up of larger and larger predators, ending in animals too big and too powerful to be preyed upon by others.

A particular link in a given food chain is termed an "ecological niche." The key-industry animals represent one niche, as do the large carnivores. This concept proved valuable, as it led to the observation that the same sort of niche in different parts of the world or different types of habitat will often be filled by similar, though quite unrelated, animals.

In the animal food chain, the relationship between prey and predator provides drama. Nevertheless, a number of variations occur in the game of life. Two animals may be competitors in a given food contest, but they calm down and cooperate with each other in exploiting the food supply. Also, the food of one animal is often the byproduct of the activity of another. Carrion-eaters depend on predators, and animals inhabiting waterholes depend on animals making the holes. Relationships like this where two species become mutually dependent demonstrate the principle of symbiosis.

Interspecific relations in a community are by no means limited to food. Elements within the group take care of some other necessities, like shelter, for instance. In a forest, trees support vines and arboreal animals, as well as provide insulation for other life forms inhabiting the lower forest strata.

Societal organizations

THE LIFE FORCE and impetus that govern plant and animal communities are imitated by social organizations. Norms following the ecological niche are institutionalized by human societies through the "role system." Thus, as a member of an organization, a person answers for a certain role assigned to him. This is usually based on one's physical or mental abilities, competence and expertise.

The process goes on to form a "social niche," or the group of individuals having similar roles and working collectively. There will be a variety of social niches, but an evident pattern will be that the product of one niche becomes the input of another, which in turn serves as the input of yet another social niche. A classic example is the series of dependencies that starts with the niche of coconut farmers which planted and reaped the coconuts. It turns over the product to the niche of coconut millers, on which another social niche, the cooking-oil manufacturers, depends for input.

A number of principles in social organization are worth noting. One is social integration, which happens when individuals become more aware of their roles and expected contributions to the group. Seen in terms of roles, the organization emerges as a collection of different social niches bound by a complex of activities which ties individuals to the group. The variety of activities should not mislead us. Structurally, an ideal organization moves along simple paths. Simplicity is one cardinal principle of social organization. A diagram of an organizational structure will reveal that a pyramid of boxes joined by lines suffices and satisfies the purpose. The lines delineate channels of communication and the flow of authority.

That the organization multiplies not only a person's strength but his creativity as well is another important principle of social organization. Here, the intellectual or mental aspect often goes unnoticed beside the truism "In union there is strength." But the organization does abet and nourish human creativity. Among the organizational vehicles for creative innovations are brainstorming sessions, suggestion systems and task forces. The first allows participants liberal exercise of their imagination, prods the mind to explore possibilities and legitimizes what otherwise are extraordinary ideas. Suggestion systems provide special occasions when creativity is expected from all, while task forces develop newer insights into vexing problems.

Lastly, though I would set great store by this principle, the "outsideness" of the organization comes into focus. An organization that does not move out or contribute to the outside environment contradicts itself. No man is an island, and this applies just as well to organization. An organization of individuals will find fulfillment only to the extent that it meets its social purpose, whether to provide food as in cooperatives, or security as in the army, or public health care as in hospitals.

Barangay democracy

I WILL HAZARD the claim that for our country, translating the ideals of social organization into workable strategies and delivery systems for national survival is not a very difficult task. A responsive, educated and patriotic Government, private sector and mass base make this possible. An outstanding proof is how we came to refashion and tailor to our needs an old concept we inherited from the ancient Filipinos. This is the *barangay,* which was a native sociopolitical organization before the Spanish conquest of the Philippines.

Besides strengthening the value placed by our old *barangay* to self-government, we refurbished the system to imbue it with larger perspective, larger vision. Being our smallest organized local unit, the *barangay* is an ideal expression of grassroot democracy. Both in theory and in practice, and as mandated by law, the *barangay* system invests the people with power so that they will have direct, active and regular participation in the shaping of public policies.

Our *barangay* has a certain affinity with close models found in other countries, the most notable of which are the Chinese commune and the Israeli kibbutz, which are collective farms. However, the *barangay* differs from these models in that while they are largely used as production units, it is set up with a more comprehensive scope. The *barangay* is a production unit too, but at the same time a community council with political prerogatives, an outlet for popular interaction and a center for the delivery of basic needs and social services.

The *barangay,* then, is a right organization following our premise. It is designed to carry out the goals of survival, human development and national identity. Efforts to push its gains are going on, development programs of larger scope and sophistication being added to its operation machinery. The most ambitious of these is the National Barangay Brigades' Development Program, which seeks to establish a set of functional subgroups or brigades within every *barangay* in every town and city in the country. It will probably take quite a time to carry out this program fully, because of the sheer number of *barangays.* In our population of 48 million, one can imagine how many *barangays* of say an average of 1,000 people each this will amount to. Though not yet in full gear, the *barangay* brigades already established and mobilized have confirmed our expectations by the record of their performance to date.

There are 17 types of *barangay* brigade which correspond to the 17 development areas we have identified. Of this total, 11 are classified as service brigades or designated groupings that will attend to specific objectives about the provision of basic needs of the community. These basic needs are water, food, shelter, clothing, energy, medical services, transportation, livelihood, education and technology, sports and recreation, and ecological balance. The Ministry of Human Settlements is supervising the work of these service brigades.

The remaining six other brigade organizations are under the Ministry of Local Government and Community Development and are classified as volunteer, disaster, women's, security or *tanod,* youth *(Kabataang Barangay),* and legal and justice brigades.

At present the *barangay* brigades are most active in supporting the Government's priority programs, such as tree-planting and forest conservation, energy saving and food production. The brigades have been invaluable to the *Kadiwa* centers, cooperative outlets organized to supply the *barangay* community with staple foods in sufficient amounts and at reasonable prices. Brigade members help maintain the centers, in the procurement and distribution of goods, and in the information campaign.

To facilitate the implementation of projects assigned to the *barangay* brigades, lateral linkage arrangements between them and any concerned Government agency have been devised. Thus, activities of Shelter Brigades, for example, are tied up with those pursued by the National Housing Authority. A feedback mechanism between the *barangay* community and national leaders assures that projects of the brigades are efficiently conducted.

With the operationalization of the *barangay* brigade concept, a resurgence of community leadership is transforming Philippine society today. The *barangay* brigade workers are, after all and by their own choice, men and women who serve without pay, without life insurance against accident or death and without expectations of personal gain.

Classical perception usually ascribes the hero stature to exceptional statesmen, intellectuals, revolutionaries or martyrs. In our time the very process of democratization allows us to make room for another kind of hero—one whose life and deeds may not be monumental but just as noble because he chooses to serve his community, his people and his country unselfishly, virtuously, compassionately and anonymously. Probably no one can replicate the epic credibility of Jose Rizal, our national hero, but one can imitate what he did to the community in Dapitan while serving time in exile. Democratizing the image of our traditional heroes is a deliberate effort at making their lives bear upon our daily activities. This calls on us not only to idealize their achievements but to translate the models they bequeathed into day-to-day civic involvement.

Compassionate capitalism

THE MARXIST VISION of the historical inevitability of class conflict has been defused in the Philippines, through right organizations. Of late the concern for community development has been a significant preoccupation of the private-business sector. Though public welfare remains a part of the free-enterprise economy, certain negative factors tend to diminish this good element of the system. One is the image of profit-obsessed businessmen which is familiar to the public mind and enrages it. All the bad things about the economy, however, are now being understood in the proper light. The downright evils are being eliminated, while innovations take their place. One such innovation is "compassionate capitalism," a concept that has been translated into national policy in a welfare state like Sweden.

In the Philippines "compassionate capitalists" are rapidly growing in number as evidenced by the emergence of the Philippine Business for Social Progress, a private, nonprofit foundation that addresses its activities to the low-income sector of the country's population. The PBSP selects and finances social-development projects which maximize resources at the disposal of the community. It extends assistance in the form of financing, technology and managerial expertise.

Businessmen imbued with egalitarian sentiments and possessing adequate investible funds can and should act as big brothers to struggling new entrepreneurs, especially in the less developed areas. Or big-business corporations can sit among themselves, identify their areas of industrial competence, and assign those with similar competence a specific geographical region where their expertise can be of the greatest use. For example, those in textile milling can help speed up the conversion of tobacco farms into cotton fields, as is being done in the Ilocos Region. In this way, big corporations can help farmers diversify their output. In turn, the corporations can also profit from the increased and ready supply of domestically produced raw materials. Another example is corporate rice farming. In accordance with the orders of President Marcos, corporations are required to produce enough rice for their workers. This strategy is one of the important reasons why the Philippines achieved self-sufficiency in rice.

Tondo is the poorest district of Manila. The thousands of shanties of corrugated iron, cardboard, discarded billboards and wooden crates are the tragic symbols and physical manifestations of urban poverty. Here is a human habitat out of balance. Here is where the nobility and creativity of man will perhaps be stunted by the overwhelming forces of misery and hopelessness.

We have tried very hard and have kept on trying to reverse Tondo's decline. Tondo is the focus of our Zonal Improvement Program (ZIP). We have implemented large-scale urban-renewal projects such as those in Dagat-Dagatan. Through the Urban Land-Reform Program thousands of squatters are now landowners. But Tondo is so huge and I feel that we are not moving fast enough. So I have recently made new appeals to our compassionate capitalists. With their help, we will transform Tondo into a model community, the premier district in the City of Man.

As an expression of their social concern and commitment, the redevelopment of a city block will be managed by an experienced business entrepreneur. Again, the approach will be the simultaneous provision of the 11 basic needs. Experienced planners and developers will help this humanistic endeavor. Our target beneficiaries are some 27,000 families.

The new bureaucracy

NOT ONLY newly established institutions like the *barangay* brigades have need for the concept of right organization. Older social organizations can profit much from it. In fact, we are now reforming, in some instances dismantling, sectors of the bureaucracy that have fallen short of the standard good organization demands. Most of these agencies have succumbed to Parkinson's Law, or the tendency of an organization, or its parts, to grow in size even though its functions have diminished. Our civil service has acquired a number of dysfunctional characteristics, notably red tape, rigidity, impersonality, inefficiency, buck-passing. But the vilest of them is the notoriety born of graft and corruption. These ills, which beset our civil service especially in the late sixties and in the early seventies, provoked the social unrest and civil disorder that compelled the Government to impose martial law in 1972.

The crisis Government which then resulted did a radical reorganization job. The challenge, a crucial one, was how to restore our people's faith in the Government—for them to see it again as an instrument of rationality, precision, reliability and efficiency. Our main answer was a series of far-reaching reforms. Among these have been the division of the country into manageable development regions, the creation of new ministries, the streamlining of Government procedures and the removal of undesirable employees.

Reforming the organization necessarily includes putting in the right man, the highly motivated, highly trained administrator. The seventies will go down in the history of Philippine Government as the Decade of the Technocrat. The product of the "managerial revolution," a technocrat is a leader-achiever called to public service. Endowed with expert knowledge and training, he supplies the political decision-makers with technical, economic, legal, scientific or management intelligence that will help them arrive at the most expedient solution to a specific problem.

The bureaucracy's increasing size and centralization, the growing specialization of its units and the heterogeneity of its goals and membership—all these phenomena invite the need for experts who have not only the technical skill but also the social and political conscience needed for the ideal management of the government.

Technocracy has paid off in the Philippines, though it is a comparatively late entrant in our political history. I credit it with initiating the revolution in earnings of Philippine export products, with planning and carrying out the country's 11 major industrial projects, with devising our energy-development program, with finishing a host of infrastructure projects, with achieving breakthroughs in agriculture, with introducing banking reforms and other economic innovations. These technocratic achievements would have daunted the bureaucrats of old.

The Ministry of Human Settlements

THE UNRELENTING APPLICATION of right concepts and the pursuit of right goals have culminated in the most innovative organization in the Philippines—the Ministry of Human Settlements. In a sense, the Ministry is the organizational expression and synthesis of all our development ideals and tenets.

First of all, "human settlements" is an idea—an approach to economic growth and human development. The approach is necessarily holistic, since it must cover all the human concerns. For it is in human settlements where we are born, live out our lives and meet our death. The human settlement is the signature of man as a social creature on this planet. All things human are manifested in settlements. If ever man becomes extinct his indelible legacy will be Rome and Calcutta, New York and Riyadh, Melbourne and Manila.

In purely physical terms, a human settlement is shelter and environment—two concerns that determine to a very large extent the patterns of our existence.

The traditional agencies involved in housing and environment have not only been absorbed by the Ministry but been given a fresh orientation. Housing is no longer construction; it is experimentation with new designs, new materials, new concepts. More significantly, it is creative financing. The "*Biglang Bahay*" Bonds and the *Pag-I.B.I.G.* Funds are two outstanding examples. Environmental control consists not just in controlling pollution but in maintaining ecological balance, recycling wastes and setting up ecological villages.

The most novel feature of the Ministry is the National Resource Experts System. I have sought the services of 11 action officers, who coordinate with Government agencies and the private sector to provide for the 11 basic needs of settlements. This innovative arrangement has produced BLISS, *Kadiwa* Centers, BLISS Mart, the University of Life. The youth and daring of the Ministry and the synergism of expertise are the sources of our strength and creativity.

The society of nations

WE CAN NO WAY LIMIT the application of right organization concepts to national concerns alone. These concepts have universal validity. The "niches" of a national organization can be extended to global realities. For instance, the "niche" concept, in terms of the organization of the world's productive capacity, prescribes the adoption of an appropriate international division of labor. To specialize in the production of certain specified goods is a possible development option in the highly competitive field of modern international business. The choice of such goods to be produced must be based on efficiency: a country should produce goods it is most capable of doing. The production of the goods chosen then becomes the country's "role" in the world trade.

International relationships based on "roles" naturally lead to mutually advantageous exchanges. David Ricardo's "Law of Comparative Advantage" restates this basic truth in terms of products countries will likely trade with each other. A country will sell a product which it produces most efficiently, or the good in which it has comparative advantage. In turn, it will buy products which it produces least efficiently—its comparative disadvantage. In terms of costs, a country will export goods produced cheaply at home, and import those it can only produce at a very high cost. So trade is always beneficial and advantageous to both trading partners.

I do realize that the most enlightened economic theories can be enervated and brutalized by factors beyond the control of the theorist. Excessive and shortsighted nationalism is one of these negative factors. Overardent "defenders of the economy" may resort to restrictive policies, such as unreasonably high tariffs and stringent import quotas, believing that they are "for the good of the country." This sets back the growth of world trade and spoils the development of local industries that would be protected, because restriction in effect subsidizes inefficiency.

In the society of nations, isolation is neither prudent nor advisable. Nationalism can be a vibrant element of a nation's identity if it can clothe itself with right insights into the real yearnings of man. In *Gitanjali* Rabindranath Tagore alludes to this sentiment in the verse below:

> Mother, it is no gain, thy bondage of finery, if it keep one shut off from the healthful dust of the earth, if it rob one of the right of entrance to the great fair of common human life.

Nearer home, I am reminded of the counsel of the Jesuit historian Horacio de la Costa that nationalism should always be understood as "a shared agreement among citizens to do things not with a view to national aggrandizement at the expense of other nations, but with a view to rendering one's nation capable of making a distinctive contribution to the general advancement of mankind."

Filipinos are no strangers to internationalism; no contradiction exists for them between love of one's country and respect for other nations. Behind our fierce sense of nationalism, or *pagmamahal sa bayan,* lies a stronger, more noble and enduring value we call *pakikipagkapwa-tao,* or the readiness to uphold the common good of humanity above national interests. *Kapwa-tao* means men alike, men together sharing a common humanity.

Right Technology

Chapter 4

THE EARTH is growing small and shriveled and lean in its natural bounties. But this problem, it seems, need not worry man so much because he has technology. Over the past three hundred years the impressive array of technology he has invented has helped him push back or erase seeming limits in his environment. Technology as a cure-all has become the basis of the optimism a lot of people came to hold on to, especially today when the world is beset by crises that threaten its very survival.

I do not disavow the benefits and the role of technology in improving the quality of life. Faith in its powers, however, could blind us to the fact that reality has many dimensions, of which technology is just one. Consider the modern parable about the American cities:

When they were new, they grew rapidly because land was abundant and cheap. More people came in, buildings sprang up, and economic activities bustled. Soon enough, congestion occurred. But the city had a ready technological solution: the construction of skyscrapers aided by the invention of the electric elevator.

Having solved the problem of housing space, city administrators thought they could relax: only for a while, though. A new problem came up: commuters, as well as goods and services, could not move in and out of the metropolis fast enough. A technological solution was again resorted to: networks of expressways, mass transit and helipads on the roof of skyscrapers.

To all appearances, the cities prevailed because technology is resourceful, ingenious, inventive. American cities are everywhere replicating themselves; it is estimated that by 1985 the world will have a total of 273 cities of over a million population each. Seventeen of them are expected to be as big as New York and Tokyo today, or with a population exceeding ten million.

This story has a sad twist, however. Demographers now report that most of the larger American cities have stopped growing. Disintegration has set in; the quality of life in the city core has declined owing to pollution, crime, drug addiction, labor strikes, urban poverty and the breakdown of vital services. Because they enjoy an economic choice, the wealthier residents have moved away to the suburbs, leaving their old community to their poorer, former neighbors. Thus, cities could atrophy and decay; and for this phenomenon no technological solution so far is in the offing.

To base our optimism totally on the promise of technology is to invite disaster. In assessing a technological feat, a dose of skepticism will not hurt us. Specters of Frankenstein and Faust may lurk behind the shiny new machines. Technology has been a boon to mankind, and will remain so if we do not lose sight of its real purpose.

I have tried, so far, to define what to me are Right Concepts, Right Goals, Right Organization. Now follows Right Technology. In Chapter One I made a plea for a humanized technology. Here, I will pursue this idea further.

A philosophy of technology

THE SPANISH PHILOSOPHER Jose Ortega y Gasset spoke of three main stages in the evolution of technology. He called them the periods characterized by the "technology of chance," the "technology of the craftsman" and the "technology of the technician."

Prehistoric and protohistoric men availed themselves of the technology of chance, a primitive beginning, when chance or spontaneous reaction was the sole engineer of invention. The technology of the craftsman flourished in Greece, in preimperial Rome, and during the Middle Ages. It was a time when artisans, which included cobblers, blacksmiths and masons, did a full-time job of technical acts. The idea of technology was never separated from the person who practiced it. Invention produced tools, not machines; and so man stayed as principal agent in the technological culture since tools are mere extensions of his physical powers.

With the coming of the era of the technician the situation radically changed. Machines began replacing the tools of the craftsman. It was a turning point shattering to natural man because the technology of the technician revealed that machines can work independently of him and much more efficiently. The technology of the technician ushered in a value shift which deflated man's ego and, in the opinion of some, devalued him. This was so because for a million years man considered his technology a personal, loved object. His skill with it enabled him to control his immediate environment, which was enough and not more than he required. What he could not do with his hands and muscles were beyond his interest; he accepted these limits as God-given and immutable.

But the technological revolution came, and machines took over man's tasks. The new technology opened practically unlimited possibilities for inventions that would give him greater power and in some cases replace him. The speed with which this could be done is another significant feature of this technology. When Shakespeare likened the moon to an in-constant lover, he could not have foreseen that within four centuries man would be stepping on the Moon and reporting back to Earth that it is simply a hunk of rock.

Since our age is a part or could even be the apex of the technology of the technician, we have to clear up our attitude toward it, perhaps by looking at the matter philosophically. I think a philosophy of technology should start from the perception that technology is a form of reaction by man to nature or the environment around him. The earliest man blended perfectly with nature because he had very simple needs; he took what he needed and left nature virtually undisturbed. We could say at this stage that the caveman was content with mere survival, with mere retention of *being.* Time passed, however, and another longing surged to the surface. Man was no longer satisfied with just existing; he wanted a life not only of being but of *well-being* as well. Obviously, he could get this only by exploiting the resources of nature. So he invented technology.

Over time, therefore, man gradually abandoned his atechnical life with nature which required strenuous efforts and long hours of work on his part. With technology, he can now manage or reduce the primordial activities that sustained his former natural life. In this sense, technology is the means by which man shuns wholly or in part the "things done the hard way." For example, the use of high-yielding rice varieties shortened the production time, and irrigation freed farmers from reliance on nature.

To fill the vacuum created by technology, man turned to a gamut of nonbiological preoccupations which he devised to give himself or others pleasure, satisfy his curiosity, express his "inner" self, serve his fellows or protect himself. This invented life was his "well-being" and raised him above the atechnical, primitive life he once shared with other primates whose only concern was survival. In other words, technology freed man from bondage to the idea of survival to give him time to create, to be human and humane, and to perpetuate himself for a higher reason than mere biological replication of the species. Since man is a being of body, mind and spirit and since technology is a human creation, technology should serve to strengthen his body, stimulate his mind, ennoble his spirit.

So a technology that dehumanizes man is not a right technology. This is the criterion we must consider when a technology is presented for our assessment.

Textbooks define technology as the whole range of technical inputs, other than raw materials and labor, that goes into each economic activity. It embraces the different processes, the building plants, the machinery, equipment and tools for each segment of production. To borrow from computer jargon, technology consists of hardware and software. Hardware refers to its visible manifestations, such as roads or water distribution systems; software means its nonmaterial aspects, as knowledge, experience, systems and organizational forms. Development of technology consists largely of a thousand small improvements and modifications in software, rather than in sudden and massive leaps in hardware.

Developing countries, like the Philippines, often face a difficult choice as to the right technology. They have so many options, unlike Great Britain which developed its own technology in a vacuum, so to speak, since it was one of the pioneer nations in the field. Our country then needs a clear mind and great prudence while selecting the right technology out of the multitude offered by industrial countries. This is doubly important because our choice of technology and the pace of technical change affect national development in the economic, political and social fields, and in turn are affected by these processes. Finally, we must also create our own self-produced technology.

A choice of technology

THE CHOICE of right technology for our country is made more crucial by the important role technology has come to play in human development. The late economist E.F. Schumacher, author of *Small Is Beautiful,* drew inspiration from Buddhist philosophy to emphasize the role of technology in the growth of the human individual. Technology, he said, "gives man a chance to use and develop his faculties, encourages him to cooperate with others and thus allows him to overcome his selfishness, and helps him produce goods and services that give him a becoming existence."

The basic argument that should govern our option rests on the non-universal character of technology. Technology is not and can never be culturally neutral; rather, it can only be one-sided, since the technology's development is conditioned by the cultural and ideological values of the society that produced it. The development of agricultural technology in the United States and Japan is an illustrative case. Both countries have achieved levels of agricultural productivity that are the highest in the world. But they did it by using methods diametrically apart. Because the United States has vast land resources but scarce manpower, the agricultural technology it chose stressed the productivity of its farmlands. This technology put a premium on machines and harnessed them so that a farmer by himself could cultivate large tracts of land. Japan, on the other hand, has the reverse resources; it is rich in manpower but short of land. So taking the technological path that its national interest dictates, Japan chose an agricultural technology that maximized land productivity through the use of fertilizers and other modern farm inputs.

By studying the experience and strategies of other nations, we can avoid falling into the trap laid by glib promoters of this or that technology. We could adopt the technology of a foreign country so long as it agrees with our resource capabilities and national interests.

Some developing countries have had the sad experience of unwisely adopting an alien technology that later proved inimical to their welfare. There have been cases where leaders, as well as scientists and educators, of a Third World country insisted on applying principles and theories that worked well, but in a developed nation with a different cultural makeup. Developing countries with a rural economy should not slavishly imitate development policies formulated by Western societies, for these measures are tailored to the needs of a highly urbanized economy.

Advanced countries meet and resolve problems and challenges peculiar to their economy. Some of them concern us in some way; others are irrelevant to us. For instance, rich countries may want to develop synthetic substitutes for natural tropical products, which should interest us only if the success of this plan will affect our export of this abundant natural commodity. Or these countries may devote so much attention to ultrasophisticated technological research, such as on nuclear armament, an activity irrelevant to us, because we are not a nuclear power. One may then be tempted to conclude that the technology developed by rich countries was motivated by self-interest, self-preservation and self-aggrandizement.

It is, of course, a harsh opinion, since the technology shelf offered by advanced countries contains alternatives that may be appropriate for a developing country. The test or the determination of whether or not a technology is appropriate depends on the economic and social conditions in the user country, on its strategies for development and on its national goals. What must be evaluated is not only the technology's viability and technical soundness, but much more its adaptability to the physical, social, cultural, economic and ecological environments in a developing country. Its human and natural resources must also be considered. I would encourage a transfer of technology between two similarly developing countries, rather than between one which is already developed and the other which is not, because the former arrangement is compatible with resource and production factors.

Again, choosing the right technology is difficult, because it involves extensive analysis of a country's resources vis-a-vis the technology. The technology must be amenable to the country's land resources, its water and raw-material supply, local productive capacity, local repair capacity and available energy sources. It must suit the financial resources and infrastructure of the country. And it must also suit the human resources of the recipient nation in terms of aptitude and educational attainment, workers' attitudes and work habits, and management skills.

In short, for most developing countries like ours, appropriate or right technology means that it is capital- and energy-saving; that it is small-scale and employment-generating; that it can be decentralized to provide work where people live; that it is simple to produce, operate and maintain; and that it should use local renewable resources, human and physical, primarily to produce the goods and benefits we require. It must not alter the ecological balance.

Indigenous technology, our hope

AFTER CHOOSING the right technology, we must develop our own. There are a number of compelling reasons for this. One is that overdependence on transfer of foreign technology creates a subservient mentality inimical to a free, self-achieving nation. Another is that the dominance of imported technology undermines the confidence of local inventors and innovators, and causes such a general malaise as to negate what has been achieved through self-reliance.

But I am hopeful these consequences will not happen. Our country has achieved several breakthroughs in technology development, particularly in energy. Our energy-exploration and development program, it must be pointed out, proceeded from a position of weakness. Providence located us not in the Middle East but in an ocean far from its oilfields. This geographical, later geopolitical, liability made us vulnerable to the oil crisis that erupted during the seventies and has since never let up.

Energy conservation and a stepped-up indigenous energy-development program became the response and the strategy by which we aim to overcome the fuel crisis in due time. We are intensively exploring our offshore areas for fossil fuels, using the technology applied successfully by other countries with similar potentials. But we put equal, if not greater, emphasis on the development of nonconventional, renewable and nonpolluting energy resources.

Some people criticize the initiative we have taken in developing indigenous technological solutions to the energy crisis. They argue that the developed countries, being just as gravely affected, have been working on the problem and will most likely come up with the best solutions to the crisis. These countries have the expertise, facilities and financial resources for such a task. So, the critics ask, why waste local money and effort? Why not wait for the inevitable transfer of the technology devised in the West? To answer these questions, I will have to refer to the thesis I submitted: that self-interest is a norm in technological development. What the rich, industrialized nations innovate they address to their own needs. In the present case, the urban, industrial economy of developed countries dictates a more sophisticated energy-development technology. This hardly applies to the predominantly rural economy of Third World countries. Besides, such sophisticated technology would be too expensive for developing countries and may require key resources they don't have.

As a developing country, the Philippines must work out its own solution to the energy problem. A fair example of what our country has done to harness an indigenous energy resource—given the resource potential, the planning expertise of our technocrats, the engineering skills of our technicians, the people's support and the leadership of our highest Government officials—is its geothermal-power project.

The Philippines has a vast potential for geothermal energy. This is because it is located in a high heat-flow region which is part of the "Circumpacific Fire Belt," where active volcanoes are found. Practically no serious attention, however, was given to this immense unexplored wealth even as late as ten years ago. It took a worldwide crisis for our Government to convince our people of the feasibility of tapping this resource and of putting up the technology for the purpose. The Philippines did so with remarkable success. By 1985 it will have some 400 geothermal wells producing 1,726 megawatts of electricity, making it the highest producer of geothermal power in the world. We have come a long way from that historic occasion in 1967, when the first electric bulb ignited by geothermal energy lighted the remote barrio of Cole in Tiwi, Albay Province.

The wisdom of developing indigenous technology now pervades all sectors of Philippine society. It can be seen in our human-settlements projects, where we are building houses with our own materials using our own technology, a system that has brought down costs of shelter for thousands of homeless Filipinos. By using indigenous construction materials, like bamboo and even coconut trees, which abound in the tropics, and demonstrating that the house built is durable, beautiful, more comfortable and energy-saving, the native technology is changing the impractical Western lifestyle Filipinos try to imitate.

Long a celebration of Filipino talent and creativity, our handicraft industry has also benefited from indigenous technology. It has introduced improved craftsmanship techniques and designs, as well as quality-control standards, that now put Philippine handicrafts as a prized merchandise in the world market.

Technology and renewable resources

A RIGHT TECHNOLOGY aims for optimum efficiency—what it generates is for the *best* interest of the parties involved and affected. Economic gains for groups and individuals are included here, but not to the point that one other party in the use of technology, which is nature, is not best served. Surely, this cannot be said of the technology that has blighted the skies of many Western cities, that scorched the earth and turned it into deserts, that released chemical wastes which killed the fishes in the seas and rivers, that despoiled forests once verdant and wildlife once untouched.

Technology can pay reverence to the natural environment around us. Lately, movements which began in the West itself propounded such ideas as Schumacher's "small is beautiful," the New Alchemy Institute's "living lightly on the earth," low or intermediate technology, recycling and, at the extreme, a virtual return to nature as the French philosopher Jean Jacques Rousseau advocated. All of these ideas more or less converge on the central theme that what has come to be known as "high" technology debases nature as well as man. It is a debatable issue, but I would not espouse one side or the other, simply because the middle ground, to me, is better. What we need is balance, to be achieved by "a mix of high, intermediate and low technologies in equilibrium with social forces, the marketplace, and the physical limits of the environment." Yes, small is beautiful, but sometimes big is necessary.

At any rate, we in the Philippines are stressing the use of right technology that will not disrupt nature's resource patterns, such that for every bounty taken from her, nature has a replacement as she renews and replenishes herself. For instance, we use the renewable energy provided by falling water. Energy specialists agree that in hydroelectric power, the developing countries have tremendous reserves of strength.

Besides its bigger hydroelectric dams, the Philippines is now harnessing water power for small-scale electricity generation through minihydroelectric dams and small water-impounding projects. An interagency task force on minihydroelectric power fielded by the Government in 1978 surveyed some 4,539 potential sites of streams, rivers, irrigation canals and flowing waterways that could be tapped for power generation. Of these, 474 have so far been found feasible for development and having an estimated power potential of 794,000 kilowatts.

We have also experimented with the sunlight to capture its pollution-free regenerative energy. At the Manila Observatory an experimental solar pond, which uses locally available components, harnesses the heat of the sun to run a thermal engine that drives an electric generator. Elsewhere, some 100 domestic solar water heaters produced by our Ministry of Energy have been installed in many homes in key cities of the country. Three tobacco flue-curing barns run by solar energy are now in operation in Batac, Ilocos Norte. In the fishing port of Navotas, Metro Manila, a prototype solar ice plant is under construction. Large business firms have also taken the cue. The San Miguel Corporation, one of the country's big industrial firms, ushered the industrial-scale use of solar energy by inaugurating its own sophisticated solar water-heating system in March 1980. Solar energy, in short, offers us an excellent alternative because the resource is abundant and in our case not fickle, as we are a tropical country with sunshine all year round.

In agriculture the renewed interest in cotton production and sericulture reflects our desire to move away from the use of synthetic materials whose manufacture could cause harmful pollution of our environment. We are moving, in the same manner, toward the use of biodegradable coconut-based components for the manufacture of soaps and detergents.

Nature's renewable resources have supplied us both largess and lessons. We have come, if slowly, to realize that though nature's way of doing things is more often slow and time-intensive, it is in the long run better and preferable to the technology that shortcuts nature's processes. On this Eugene S. Schwartz writes:

> The natural environment is a luxury only to those who possess it. Lose it and one's own existence is imperiled. This is the lesson to be learned from the technological societies. Affluence is ephemeral, and often reduces the quality of life. Wealth is people and land and pure air and pure water. Here is a challenge to the Third World. Go your separate ways. Create new ways to harness the largesse of your countries and the creative labor of your peoples. Do not become lost in the monoculture of a universal civilization which will destroy you together with those you imitate. Your heritages and your histories are unique pointers to a different tomorrow.

Technology from a holistic view

SCHWARTZ hurled a challenge to the Third World as a sympathetic Westerner. But though we appreciate such well-meant concern, our own Eastern culture provides us far more inspiring and wiser guidance. The Oriental world view which contemplates the universe as an organic whole teaches us to treat nature as a unity of interconnected and interrelated parts. From this wisdom, our technology derives a holistic approach, which perceives nature as a system of the whole, a systemic technology.

The use of systemic technology is wondrously illustrated in our dendrothermal plantation. Based on the farming of permanent trees as a fuel source, the project is being handled by the National Electrification Administration, which is setting up plantations all over the country. Encouraging results of feasibility studies and the good performance of the *ipil-ipil* trees as fodder for wood-fired power plants should give way to commercial adoption of the technology. Already, a pilot project for this purpose has been established in Mindoro.

The dendrothermal plantation underscores the value of wood as a basic replaceable reserve of renewable energy. And it does more than that. It checks soil erosion, supports reforestation, and so prevents floods to which our country is vulnerable during the rainy season. Economically, the plantation will generate employment and income opportunities in the rural areas. In contrast with most power-generation programs which divert much of their operating cost to capital construction or imported fuel, the dendrothermal plantation's operating cost is spent almost exclusively for the procurement of locally supplied raw materials and for labor. So the income it earns goes back to the community.

Another demonstration of systemic technology is our alcogas, or fuel alcohol, project. To mitigate the effects of the international oil crisis, the Government launched early last year a national fuel-alcohol program based on the successful blending of anhydrous (waterless) alcohol with gasoline for automotive use. The program delineates two distinct advantages for our economy.

Since sugar-cane farming is an established major industry in the Philippines, the alcogas project relies on it as a main source of raw material. As one of its advantages, therefore, the use of sugar cane to produce alcohol for gasoline displacement will sustain employment in the sugar industry. This is significant because sugar is one of our main exports, and sometimes conditions in the world market play havoc on it, to the disadvantage not only of our export earnings but of the sugar workers, who could be laid off. The alcogas project removes this constraint and assures these workers of year-round jobs. The second advantage is that sugar or the raw material needed is an indigenous and renewable resource with a highly developed farming technology in the Philippines to make this input very stable.

The alcogas project, however, does not stop with sugar. Studies are going on of the use of cassava and the nipa plant as substitute alcohol sources. This seems feasible; people should be able to raise these substitutes in areas of the country where sugar-cane farming is unsuitable. The link of technology with other aspects of life in a certain community comes into play here. Thus, a fisherman who needs fuel as an input in fishing, but has no access to sugar cane, can use nipa as an alcogas source.

In our human-settlements program, systemic technology is visible in the implementation of Level II of our BLISS housing project. The technology provides a cluster of livelihood opportunities that are interlinked and mutually supportive, with one livelihood type drawing its resources from another, which in turn draws its own resources from still another livelihood type.

A mass-based technology

ECONOMISTS agree that a country will experience sustained growth only when technology reaches the countryside. However, a technology reaches the countryside and is accepted by it only when it consists of the proper substance delivered in the proper manner. Furthermore, the proper substance of a technology depends on simplicity. To ensure mass appeal, it must be plainly stated as to be easily understood by people, and in turn easily applied by them.

For this purpose, the Government established a clearing and service agency, the Technology Resource Center, in the Ministry of Human Settlements. The Center identifies and pools the sources of all technically related information needed to launch a technological project. It helps entrepreneurs who want to put up projects that would develop technical capability. It helps raise the capital or secure the market by creating needed market linkages.

Another Government agency, the National Science Development Board, promotes applied research in science and technology. Both the Center and the Board work actively to disperse information on popular technology, especially for the rural folk.

Biogas is an example of a technology easy to implement. Being agriculturally based, it gets much support from the Ministry of Agriculture. By 1979 there were 399 known biogas plants in the country, 101 of them Government demonstration plants and 298 put up by the private sector.

Processed from animal and other organic wastes, biogas provides our farmers with a renewable energy source and fuel for cooking, lighting and other domestic purposes. Being a sootless fuel, it is nonpollutive. For the raw materials of the technology, the National Institute of Science and Technology has made studies which showed that even peelings of green and ripe bananas can be used to produce methane gas. The technology appeals to the masses, because its benefits are easily seen, its costs minimal, and its implementation simple.

If technology is to be delivered properly, the delivery must be decentralized. We are all familiar with the shortcomings of an overcentralized government that responds only to the problems of its core and seldom to its periphery. The strength of a country as an organization is the sum of the strength of each constituent citizen, whether he is in the city or in the barrio. Moreover, this strength is basically the economic capacity of the people acquired through proper appreciation of technological developments. Most of our technology programs, therefore, have an educational content. Thrusts of the Population Commission Foundation and the Nutrition Center of the Philippines, for example, employ various methods of instruction which have as overall objective the promotion of the economic well-being of the Filipino.

The "Big Brother" project of the Ministry of Human Settlements also embodies Government efforts to decentralize technology application through industrial dispersal of big-business enterprises. This will stimulate the growth of rural industries, as it will foster close interlinkages between small-scale and large- or medium-scale industries.

The countryside, or mass-based, technology for Filipinos which our own innovators developed is an indigenous creation expressing the Filipino will, ability and resourcefulness to put technology to work, but not at the expense of his environment.

Ideology and technology

IN THE WORDS of the American sociologist Daniel Bell, we are reaching the end of ideology. Soon political ideologies will wane in importance in human civilization. Already today in an ever-increasing tempo, it is the idea of technology that is reshaping the world in many significant ways. People are beginning to look at technology as the only real liberator. After all, technology has given multitudes of people everywhere freedom from drudgery and physical suffering. It has liberated us from ignorance and superstition.

On the other hand, those who espoused radical political ideologies have achieved nothing beyond the vehemence of rhetoric. Without right technology, no political ideology could provide deliverance from poverty. Yet with technology and true development, ideology would wither and lose its fervor.

Radicalism thrives in an atmosphere of conflict and discontent. Right technology will guide us through the paths of development. Success in providing for the basic needs of man, even in the sense of a minimum whole would spell the end of political radicalism. Men would seek fulfillment in intellectual, artistic and spiritual endeavors in pursuit of the maximum whole. This would be the beginning of real human freedom. With right technology we can liberate ourselves from the bondage of the body and create new, larger and invulnerable sanctuaries of freedom for our mind and spirit.

It may be argued that in the countries of the industrial West, technology provided an outstanding degree of affluence and yet there is dissatisfaction and malaise. I could only say that the basis of Western industrialism is not right technology. It is cowboy technology, dedicated to gorging resources and pushing the earth to dangerous ecological limits. It is resource-consuming, consumption-oriented and dehumanizing. On the other hand, right technology is the exact opposite, being resource-recycling, fulfillment-oriented and humanistic.

Some may claim that without revolutions and conflicts, life will be drab and colorless. I disagree. Our war on poverty is rife with drama and heroism. Whenever we are pursuing new projects I feel a certain kind of excitement in the planning of strategies and overcoming unexpected difficulties in the implementation. We exult at our successes and mourn over our failures. But even in failure we achieve something of value: the revitalization of the elements of fortitude within us that enable us to try again.

Right Time

Chapter 5

IN THE PREVIOUS CHAPTERS, I attempted to explore various pathways to the development of man and of our country. These paths are illuminated by right concepts, aligned to right goals, managed by right organizations and embodied in right technology. However, we cannot forget the exhortations of the prophet:

> There is a season for everything, a time for every occupation under heaven: A time for giving birth, a time for dying; a time for planting; a time for uprooting what has been planted.

In other words, there is a right time for success.

Whether it is the angelus bell, the muezzin's cry or the modern quartz watch, people are daily reminded of the hour and the deeds that must be done during its passage. One may do nothing as the clock ticks away the hours, but the fact remains that all our acts are situated in time. Indeed, time is an essential dimension of human activities, a dimension which can be enhanced or eroded not only by the way we use our moments, but by the timing of our endeavors.

So it can be said that an act becomes a meaningful event only because it happens at the right time. But what about the visionaries and theoreticians whose works are ahead of their time? Again, time is the determining factor, even if the vindication of these pioneers should come posthumously.

One of the remarkable developments in our time is that a Leonardo da Vinci need not wait a century to see the airplane finally airborne. Especially in science, the gap between theory and practice, between discovery and application, has so narrowed as to give *right timing* an added relevance to our development goals. For a striving nation like the Philippines, which must promote growth in all sectors in order to survive, the narrowing of the "season for everything, a time for every occupation under heaven" is surely a boon.

Perspectives on time

TO THE CAVEMEN, sunrise and sunset must have been sufficient indicators of the passage of time. But human development proceeded and the sense of time changed with it. When early man discovered agriculture, the domestication of animals and communal organization, reckoning became his second nature. Circumstances forced him to know the suitable time for planting and harvesting his crops, for slaughtering his animals and for practicing social amenities.

And so, men's eyes literally followed the sun, marking the fall of its shadows as it moved westward. This preoccupation with time and its measurement was to become a civilizational landmark of human communities from the prehistoric era to the present. The Egyptian and Incan pyramids were both tombs and altars and time mechanisms serving to indicate the equinoxes or particular periods of the year. The same can be said of the prehistoric stone pillars in England known as the Stonehenge.

People through the ages have also built numerous smaller timepieces, starting with the ancient shadow clock and sundial and evolving in our day to the electronic chronometer. In this regard, I have pointed out in the Prologue of this book that its beautiful medieval clocks could well be Europe's own statement in history, a symbol of its vision about the nature of man and the universe.

As it should, man's preoccupation with time did not stop at his attempts to measure it physically. He must define its nature as a phenomenon or simply as a concept. Philosophers, religious thinkers and scientists offer a wealth of interpretations, some of them so esoteric as to be unintelligible to the layman.

Plato said that time is "the moving image of eternity," pointing to its ordered regularity. He believed that time began when the universe was created and had since then governed its harmonious motion.

Aristotle, on the other hand, contended that time either does not exist or only in a dim, obscure fashion, since it speaks of a past, which has been and now is not, and of a future, which is going to be but is not yet. Others, like Spinoza, Hegel, Kant and Schopenhauer, also denied, according to their reasonings, that time is real. To Bertrand Russell, "to realize the unimportance of time is the gate of wisdom," which appears antithetical to practical reality. These philosophers believed that time is not a substance or a fundamental, but an attribute like color or harmony.

Another group of interpreters were the Stoics, who believed in a time continuum. Accordingly, they held that the present is partly future and partly past.

Among scientists, the physicist is most intimately concerned with time. An earlier giant among physicists, Isaac Newton advanced a definition of time that dominated scientific thought for many generations. He proclaimed that "absolute, true and mathematical time, of itself, and from its own nature, flows equably without relation to anything external." By this dictum Newton made time grandly inflexible as space.

Then came Einstein, who tore up Newton's hypothesis. In his Special Theory of Relativity, Einstein demonstrated that the time of an event is not absolute but dependent on its relative position in space. Later, in his General Theory, he also held that time is relative to mass. In effect, Einstein re-created the universe by taking it away from Newton's three-dimensional world existing in absolute time. He substituted for it a four-dimensional concept and a spacetime .continuum viewpoint.

Without saying so explicitly, the musician is the unequaled interpreter of timing. The rhythms of music appeal to us perhaps because they are in tune with our inner rhythms. Human beings are also endowed with certain biological rhythms, like our heartbeats and brainwaves. In fact all organisms exhibit some rhythms. The entire physical world vibrates with the regular beats of the ecological cycles.

We do not have to be philosophers, scientists, musicians and ecologists, however, to be aware of the affinity between human activities and time. We see the manifestation of this truth in the rites and rituals of different cultures.

In the Filipino culture, this intimate relationship between time and human activity is richly evident in the customs and traditions of our people. Folk in the Tagalog region have the *pamanhikan*, or the ritual observed by the groom and his parents of calling on the bride's house to formally ask for her hand. The visit is paid a day or two before the full moon in the belief that such a time would be propitious for the well-being of the couple.

Old Filipino customs relating to time show a correlation with natural phenomena. Among the fisherfolk in Bataan, monetary payments, such as wages, are paid at no time during the month except *sa liwanag*, or when the full moon brightens nighttime. Here, timing is again based on a cyclical aspect of nature considered salubrious.

The Ilocanos note the time by the appearance of seasonal plants, fish or some other natural processes. February is the month when the fish *tud-ding* teem in the Ilocos coastal waters; March is when the weed *salsaput* lushly multiplies; and October is the month of rain showers.

In the mountain provinces time reference favors the sylvan creatures, notably birds. All this is a way of looking at the phenomenon of time born of the rural setting of our traditional environment, and demonstrates that a sense of timing to achieve good or ideal ends is not alien to Filipinos.

Time as evolution

SCIENCE BEGAN in Ionia when ancient thinkers opened investigations into the nature of things. Among them was the Greek philosopher Heraclitus (about 500 B.C.), who wrote an opus, "Concerning Nature," in which he maintained that all things were in a state of flux. Others, then and in subsequent eras, could not accept this premise in the belief that certain basic and permanent elements hold nature together.

Yet today it is clear that Heraclitus should at least be credited with thinking along the right direction. For the *idee fixe* on a natural order having a solid and clearly defined structure has given way to the evolutionary principle, which asserts that things are in flux and that they are subject to temporal development; that time is never still.

The importance of *timing* now enters within the evolutionary nature of life. Since life is a movement going in circles or flowing irresistibly to endless extensions, it is vital that we be sensitive to the points along its path where our actions or decisions will be most telling. In other words, when do we act is as much a crucial consideration as what that act is.

Economists have this statement about time being the scarcest resource in the final analysis. But I would not view time as something like gold to be hoarded and worshiped. Time should not control our lives in the sense that some narcissistic persons have so little of it to share with others. Instead, we must learn how to apportion our time and direct it to useful and meaningful purposes, ever liberal with it as the occasion demands, or economizing it when brevity is the wiser alternative. The virtue of patience, as well as the practice of terse efficiency, is involved here. Orientals have so much of the former, while Westerners put a premium on the latter. To me, neither attitude is desirable in itself. I prefer a happy mix of the two attitudes about the proper use of time.

Apropos of this, I remember reading an interesting article at the time that the crisis over the American hostages in Iran was still raging. Among others, the commentary played on the issue vis-à-vis the Eastern and Western concepts of time. It said that in the United States countless citizens have been so agitated by the long detention of the hostages that they were anxious and ready to go to war against Iran. National feelings rose high as the American people impatiently counted the days of the ordeal, which finally stopped at 444. To it, and the Western frame of mind, the protracted waiting for the Iranian authorities to make up their mind on the ultimate fate of the prisoners was unbearably irritating.

On their side, however, the Iranians remained seemingly unperturbed in the face of mounting international criticism and pressure. The article pointed out that one reason for this is the basic dichotomy in the way two different cultures view time. Mystical religious tradition has mentally conditioned people in the East to think of time in terms of ages and eternities, not days and months. In contrast, the popular mind in Europe and America measures time by the hands of the clock in accordance with its cultural predilections.

Moreover, the accounts of the numerous secret negotiations revealed that the hostage crisis was unnecessarily prolonged because of the improper timing of many important events surrounding the issue of the Shah, the United States Presidential elections and religious festivities in Iran.

Impact on culture

THE PRECEDING OBSERVATION brings us to the impact of timing on culture. It is a specially critical factor when changes are introduced into present cultural patterns.

People living in communities away from one another differ as a group mostly because of their sociocultural backgrounds. The phenomenon known as "culture shock" demonstrates how disconcerting this case can be. Culture shock is the confusion experienced by a person when suddenly exposed to a culture strikingly different from his own. For instance, an unsuspecting American Peace Corps volunteer may undergo culture shock when sent to a far-flung African, South American or Asian country.

Moreover, culture shock is double-edged; it affects both visitor and visited. And if the visitor is not a person but a technology, the effect on the host of such an encounter with change can be devastating.

Technology transfer from maker to possible user-countries is not a simple mechanical procedure. It has cultural, social and ethical dimensions, which must be assessed before a technology is adopted by a recipient country. Here the importance of right timing is inescapable, since the intrusion into society of external agents of change is inevitable. In Third World countries especially, a better quality of life is a deep aspiration. Technological development helps fulfill that desire.

But because of cultural constraints a community may be reluctant or even hostile to change. Eventually it may be convinced of such a necessity if the innovators move in at the right time. The way must first be paved before new ideas or new techniques are introduced to an impact community.

Material changes impinge on the attitudes, the thoughts and beliefs, and values held by people in the visited society. These cultural repercussions are often subtle and may be overlooked by avid proponents of techno-social innovations.

In newly developing agricultural countries, for example, the entry of mechanization or factory labor affects the traditional family structure. If the workers and their families can accept the new social patterns or reconcile traditional family norms with modern reality, industrialization need not disrupt societal well-being. However, the opposite reaction can also be obtained, and so in the absence of reconciliation, possible socioeconomic development is aborted or slowed down.

The critical relationship between timing and change cuts across varying cultural and technological biases. While the rich countries consider technology a harbinger of progress and prosperity, their feeling may not be shared by the poor nations. Within the global community exist classic examples of this paradox, wherein one developing or least developed country may reject technology in whole or in part, because it is inimical to the country's national interest. What may be wrong here is the timing element. It could go askew and misjudge the ripe time and readiness of the developing nation to accept an imported technology.

In India the Baiga folk see agricultural activity as an intimate interrelationship with the nurturing earth. Efforts have been futile to convince these people that technology can increase their agricultural productivity. Their age-old cultural beliefs deny the use of even the iron plow because it would tear the earth, rape her and rip up her belly.

Similarly, a number of cultures still dominant in parts of Latin America, the Middle East and right here among our cultural minorities are rooted in the belief that man's labor has no causal effect on his future or the future of the land. Only the gods, not man, decide what are due to be enjoyed or suffered by human beings. So it is very hard to persuade these people to use fertilizers or save the best seeds for future planting, because their culture admonishes them to be responsible only for the actual performance of their daily tasks. The success or failure of man's efforts is not his business, but of the gods.

Time in nature

ONE OF THE GREAT IDEAS evolved in our time is the ecosystem concept. It came as an illuminating response to the environmental crisis that has plagued our age and threatened the survival of mankind. An ecosystem is "a unit of biological organization made up of all the organisms in a given area interacting with the physical environment (Eugene Odum)." This is the biological definition, which others have expanded to cover practically all kinds of organization.

For example, the economist Kenneth Boulding defined the ecosystem as "a system of interacting species, a species being a set of elements, each of which conforms to a common definition, the total number of which is a population which can be added to by the formation of new elements (birth or production) and can be subtracted from by the disappearance of old elements (death or consumption)." It is an intriguing definition, since the concept now accommodates other critical areas in our contemporary life.

By this expanded definition, an automobile is as much a species as a bird. A car is nourished by gasoline and excretes gaseous wastes. Its habitat is the concrete and asphalt roads. Aside from man, the social species include corporations, government agencies and other institutions. If the biological ecosystem can be studied, analyzed and understood, the possibilities of the concept in other fields of concern will be truly worth our attention. But, meantime, I would not further the discourse by simply citing some biological phenomena to illustrate the value of right timing as it is observed in nature.

Time cycles are an integral aspect in an ecosystem, which for our present purpose is a forest, a lake, a sea or a patch of farming land. Take as an example the well-noted periodic population fluctuation among fur-bearing animals. One of them is the lynx, whose population displays a ten-year fluctuation.

The lynx preys on rabbits, and when rabbits are many the lynx prospers. Then the rising population of lynx increasingly ravages the rabbit population, reducing it. The rabbit becomes scarce; so does the food supply of the now numerous lynx. They begin to die one by one until the cycle is reversed. It is now time for the rabbit population to grow and start the whole cycle again.

Another ecological phenomenon is the aquatic cycle moving from fish to organic waste to bacteria of decay to inorganic products to algae and back to fish again, all through time.

In the two ecosystems cited, as well as in others, there are two dangers connected with the built-in oscillations within the system. One is that the whole system will collapse when an oscillation swings so wide off the balance point and the system can no longer compensate for the aberration. In one swing of the rabbit-lynx cycle, for example, the lynx may manage to eat all the rabbits, thus stopping the growth of a second rabbit generation. Soon enough, the lynx population will also die, and so the entire rabbit-lynx system collapses.

The second danger is wrong timing, which concerns external influences that may force part of the cycle to operate faster than the overall rate. In an ecosystem each biological step has a characteristic reaction time which depends on the metabolic and reproductive rates of the organisms involved. If the lynx reproduce so fast and increase so much that they consume the total rabbit population, the entire system collapses. That the timing of certain biological steps has gone awry is also often the cause of environmental pollution.

Time as a development tool

IN FOLLOWING a development path timing is an essential consideration. It is reflected in the system of countdown that governs most of our regular activities. A countdown implies that something started is something done and finished at a later time.

The Government has various national policies on development and programs to carry them out. To be effective, the implementation of these programs must be timed correctly. They must take off at the precise moment established by planning and other preparatory activities undertaken. This is the moment when both implementers and acceptors of development are ready, when the time count is down to zero. In chess tournaments, time is used to measure the value and meaning of every move of the pieces. In our strategy for development, time should not only measure but determine the value and meaning of every move.

To illustrate the role of timing in development, let me refer to the facts of technological growth. Its history, particularly in Northern Europe and the United States, shows that technological development is largely the product of self-generating forces, as well as the gradual accumulation of scientific and organizational knowledge and the evolution of a new type of urban life.

The growth process was slow, which proved to be an advantage in terms of the demographic parameters. During the period, birthrates and deathrates stayed constant, showing no abnormal increase in the countries' population. This was because the technology for the control of diseases lagged behind other forms of technical progress. Thus, an industrial base providing abundant jobs became an outstanding feature of the emerging economy.

Jobs in the industrial sector were plenty and readily available to farm workers, who were in turn released from their rural occupations when technology revolutionized farm production. And so, unemployment or underemployment, while not unknown, was a minor problem; more often, as in the United States, insufficient hands manned the new machines. In short, the industrial nations did not face the timing issue as it relates to the development goal of Third World countries.

One can say that since the developed countries have done it all—invent the technology and its application systems—all that the developing nations have to do is import the tools of development. They can simply adopt these advanced technological models and learn the expertise needed to be able to apply them. But this is easier said than done. There are constraints, delimiting factors and thorny issues peculiar to conditions in the developing countries.

One of them concerns the spectacular success in the transfer of health and medical technologies to poor countries. The ravages of diseases were kept in check, and so the deathrate dropped. This contributed directly to the population explosion in poor countries, an issue of perhaps greater dimension than the original problem addressed. Burgeoning villages whose populations were no longer held steady by high deathrates sent out their surplus members to look for jobs in the cities. There the problem became worse, because urban employment opportunities lagged behind the popular demand for work.

This case is a dilemma where time is primarily the controlling factor. The paramount question here is: how can the developing countries buy time till they are able to solve both their population and economic-development problems?

The development situation in poor nations impresses on us the need for managing time efficiently and wisely. Good time management involves proper planning, the setting up of actual targets in given periods of time, installing time checks and countdowns between strategies, reducing time where its use is unproductive, and producing time where it is most rewarding.

Moreover, we should realize that man and all his activities would be meaningless outside time. I believe that Proust was right when he said that every moment of time implies the past and the future because its true significance lies in its being part of a pattern extending from the past into the future. Further, that human experience cannot be fully significant when it is isolated; it becomes significant only when it is contemplated in connection with those parts of the pattern which time separates but which really belong together.

A matter of readiness

IN OPTIMIZING THE VALUE of any human activity in a given time an important key word is *readiness.* I use this term as it is understood in educational psychology, which defines it as the state of being prepared for something about to happen or to be experienced. Our growth direction should take into account the readiness of our people, as well as our physical environment, for changes.

Right timing with respect to the management of our environment would involve careful attention to conservation policies, together with utilization strategies that maximize the use of environmental resources while ensuring their continuous supply through natural replenishment. Under these criteria, exploitation of our environmental wealth that exceeds the limits of a resource must be considered ill-timed and inexcusable.

To elucidate, national interest for the socioeconomic well-being of our people dictates that we exploit the country's land, fishery, forestry and mineral resources. Such intervention in the environment will not be destructive if, among other things, proper timing is observed because nature exhibits some distinctive oscillations. For instance, forest trees can be cut for commercial purposes but only in such volume as to leave enough remainder that will grow lush and mature in time for future use. Replanting, which has to be done at the right time, also ensures that what has been taken is replaced. This is the rationale of the interconnected "selective logging" policy and reforestation program of the Government.

The same can be said of the exploitation of our fishery wealth because in both we are dealing with oscillating renewable resources. These resources can be advantageously used and replenished through the application of what we have come to know as the principle of maximum sustainable yield. This concept simply means that harvesting of the resource should not go beyond the limit imposed by the regenerative capacity of the resource.

The approach and timing strategy in mining is quite different, since minerals are a nonrenewable resource. Here we apply the concept involving the optimum economic use of the resource. The timing element is very important here, since the principle implies that we should take advantage of the market price of our mineral products so that the added earnings can be pushed back into the general socioeconomic development of the country.

Moreover, this view of mining operations also makes allowances for nondepletion of the resource through conservation by minimalization of waste and waste recycling. Nor is their pollutive aspect ignored. Pollution consciousness is growing rapidly in the minds of our people, although many are quite deluded that our own particular environment is still virtuously unblemished, intact and incorruptible. We who know the contrary must labor to impress the truth: that the environment is a fragile web of life that has a tolerance limit against man-made intervention; that we need not wait for the bomb to drop before we bewail the destruction of our cities by smog, chemical poisoning of waterways, filth and other urban blights; and that we can avert these through strict compliance with environmental laws and our acquisition of an attitude toward nature which is protective, humane and reverent.

Equal to the readiness of our countrymen to live within environmental constraints is their readiness to accept development as a present and future goal. Are we, as a people, ready enough to accept both the benefits and burdens of development? Have we acquired sufficient political, social and cultural maturity that would strengthen our resolve? If we can give positive answers to these questions, and signs are we can, then the present is the right time for development efforts.

How far into the future should the time horizons of our concerns be? Why should we care for the future and the unborn generations when all who are living will be dead a hundred years from now? The American economist Robert L. Heilbroner posed the question: "What has posterity ever done for me?"

The art of caring is essentially a religious act, a manifestation of the spirit in man; it believes in things unseen but deeply felt. Scientific projections and futuristic studies could dramatize the future tragedy if we do not act now, but nothing can convince more insistently and effectively than the inner voice in us. This voice instinctively knows what to do, and has the power to transform the whole person into a loving, concerned individual willing to give or sacrifice part of his own present resources for the benefit of his distant and unseen descendants.

The readiness of our people for developmental changes is also conditioned by the quality of their sociocultural upbringing. When the Cultural Center of the Philippines rose some years ago from a site on the historic shore of Manila Bay, I and its exponents became sudden objects of unkind criticism. The Center was branded as a pretentious showpiece and, worst, as a symbol of colonial mentality since it appeared to favor Western art and artists.

True, the Center has been inviting outstanding musicians, dancers, painters, literati and other artists from all over the world. The reason for this must be made clear. Art, in the truest sense, is a commonly owned international wealth to be shared equally by all nationalities. By exposing our own people to the best and most representative forms of art expression, the Center is merely contributing a share in the promotion of internationalism and universal brotherhood through art.

Moreover, the development of the Filipino as an artist is a very patent objective of the Center. It is supporting, encouraging and subsidizing the growth and perfection of local artistic talents to a point that an appearance at the Center is now considered a mark of high honor and recognition for known and previously unknown Filipino artists.

Above all, the Center has become a monument of national identity. Observe the crowd that daily troops to the site. Most are ordinary people who know little of the technical sophistications of the arts. But they know what the Center means to all Filipinos. It is something to be proud of, a house for the Filipino spirit as it expresses itself in song, dance, music and the visual arts.

Time and priorities

A SYSTEM OF PRIORITIES enhances the timing mechanism for development. It sets up goals and assigns short- and long-term values to projects and programs. The planners and decision-makers who formulate it work on the assumption that development cannot be just one big spurt of activities. Rather, it is a series of actions, each of which takes place at the most opportune time and in the best possible sequence.

The system responds to immediate needs and is courageously far-sighted about priorities for the future. An example of the first consideration is the Green Revolution, which I humbly started a few years ago. The program addressed itself to the very basic human need for food. We did it with a technique grandiose planners would label as naive or amateurish, for we chose the little plot of earth in the back yard of a typical Filipino home as the backbone of the production effort. Perhaps because of the motivation or the easiness of the task, as soon as the program took off, people everywhere began planting their back yards with vegetables and fruit trees. In no time the country was deliciously green. For me the feeling in seeing the achievement was not unlike the experience in a large gathering with people standing in the dark and then one lights a candle, followed by another and another till the whole place is ablaze with light from a thousand candles.

The other criterion, which concerns our future, is demonstrated by the Bataan nuclear-plant project. Criticisms were levelled against it, first, because the project was alleged to be an environmental hazard. This was resolved in favor of the plant proponents after a long and careful study and investigation of the dangers and safety factors involved. Then, its critics said the plant was too expensive and unnecessary at present. The timing mechanism of development is the argument against these critics. As all will agree, the economy based on fossil energy is now in the twilight of its days. We have no other recourse but to invest in alternative sources of power, the more of them the better. The nuclear plant in Bataan is one of the best options and a worthy gift to the young generation of Filipinos who will be enjoying its full use in the future.

Some projects are a mix of present and future priorities. Population statistics in 1972, which showed our people growing at the rate of 3.2 to 3.5 percent and thus placed us in sixth position demographically among 35 other Asian countries, prompted me and my colleagues to set up the Population Center of the Philippines. We directed the Center to undertake family-planning campaigns and research on population control. It continues to carry out these assignments while being modestly proud of the success of its work. Our population growth rate has decreased markedly over the past recent years. It is expected to slow down even more because of the educational thrust of our population program. The Center believes that educating our people on the subject, using the school, *barangay*, civic groups and other institutions and organizations, is the most effective control technique in the long run.

Time for gestation

WHILE I RECOGNIZE that the present is determined to a large extent by the past, I am infinitely more interested in the thought that the present can shape the future. If I were to be a part of this challenge, my hope would be the emergence of the total Filipino, a human being truly humane and steeped in the ambiance of the true, the good and the beautiful.

The leadership in our country is no doubt obsessed with this dream. There are various programs in government addressed to it, which are unique in the gestation period demanded. The pursuit of goals for the future is a long occupation claiming our lifetime devotion. But the time spent will really appear short for those filled with infinite hope and faith in the Filipino as a worthy race.

A role in the establishment of the Nutrition Center of the Philippines allowed me to appreciate the value of proper nutrition and mental feeding in the preparation of our infant population for their life ahead. Good food and health care given today will ensure their body strength and physical productivity in the future. Mental feeding or early education will prepare them for the mental, intellectual and spiritual challenges of tomorrow. The Center dedicates its efforts and resources to about three million Filipino children aged six months to six years whom it found are suffering from malnourishment and undernourishment. Sad to say, these children are in the crucial formative stage of human life where wrong things that happened will be a lifelong scar.

For older children our task is to seek out the underprivileged, the poorest and the loneliest, and give them a chance to live a useful life. Our development program for out-of-school youth, the *Kabataang Barangay* movement and other related search-and-emancipate projects of both the Government and private sectors attend to this. One notable addition to this thrust is the establishment recently of the University of Life in a sprawling site in Pasig, Metro Manila. This Government university offers innovative courses, including nonformal education, for poor but deserving Filipino youths.

Time and the Filipino

WE ARE a comparatively young nation in terms of sovereignty and political independence. Governance of their own destiny came into the Filipinos' freed hands only some 35 years ago. Yet we like to think that the formal Day of Independence of the Philippines, proclaimed on July 4, 1946, was just a formality. For the Filipino mind had never been enslaved, though waves of foreigners invaded the islands and set themselves up as political rulers. But never had anyone of them tamed the Filipino spirit. This is the spirit—the lust for freedom, dignity, justice—which we are celebrating in this book.

This spirit was alive before Magellan arrived in the country in 1521. Since then it has lived, grown, and survived colonial management, wars, internal conflicts and now modern global crises. So I sometimes wonder why some Filipinos debase their heritage by saying that the beautification of historic and cultural landmarks, the building of proud edifices for the arts, sciences and education, and our hospitable reception of foreign guests—among others—are just a waste of Philippine money and resources. Do we live by bread alone? Must we not also care for and sustain the spirit that makes for our sense of national and human identity?

Obviously, words are not enough to create images of the Filipino spirit. We must concretize and make visible monuments and proofs of this spirit so that when our countrymen look at them, and their unborn heirs examine them, these monuments will instill the permanence of the spirit.

Finally, let me draw an inspiration from a quaint Ilocos folk belief. The Ilocanos believe that on seeing a shooting star, locally called *layap*, streaking in the night sky, one must hurry to make a knot in his handkerchief or any clothing material at hand. Doing this in time means the coming of a good fortune. Sometimes, opportunities that can make us great as a nation or as individual persons come along like a *layap*. We must be alert and quick to seize them, and tie a knot before the *layap* disappears.

Right Quantity

Chapter 6

THE HISTORY of civilization can be viewed as the plots of a real-life drama where Man, the hero, succeeded step by step in satisfying most of his wants. To be sure, he succeeded and prevailed because he was ingenious and very resourceful. He was innovative and he called on this talent whenever the need for it arose.

When he realized that neither his clumsy hands nor his sharp teeth were good enough as a tool, he invented the axe. When he chanced to toy with two dry sticks and saw that the friction between them caused heat, he invented fire.

And so, he no longer shivered in the cold of those Paleolithic nights. Fire was a comfort and more. It was a protection against man-killing beasts that roamed not far away from his camp, which gave him another idea. If it scared animals, then he would use fire to herd them off to a crevice or to a corral to be tamed. So began the domestication of animals.

But that was not all. Since our hero also discovered the art of agriculture, he needed more open space. Thus, again using his fiery invention, he burned the jungle and pushed the forest back. Our prototype man is, therefore, the original *kainginero*.

Other wants which man satisfied during his younger days stayed as basic elements of his culture and civilization until today. If we are indeed to count all basic human inventions, much greater than half of them belonged to the ages when man was young. Among others, take the wheel and the plow and the boat with its oars and sails.

Nevertheless, all of these earlier inventions and reactions to human wants were the satisfaction of the basic needs of a fewer and less sophisticated population. But people grew in number, as well as in sophistication. The multiplication of wants in both directions necessarily followed.

Besides the immemorial human needs for food, clothing and shelter—the demand for which rose in quantity and quality —the later and present generations of mankind also insisted on their rights to education, to health and medical attention, to social mobility and to amenities of life like recreation and entertainment. In short, man's ascent in civilization meant an equivalent ascent of human wants.

Insatiable desire for greater and greater material comfort by those who considered it their privilege and, on the starker side, the crying need of millions for just mere survival drove people and nations to denude nature of its garments. Yet, by the exercise of man's intelligence, the perception is not lacking that the resources of nature being overly exploited are finite and prey to irreversible exhaustion.

The juxtaposition of the two realities, or the finitude of natural resources against the unending growth of human wants, compels us to adopt a rather grim but sobering attitude toward the preservation of the human race. We have come to realize that in order to survive, mankind must live by the law of scarcity. Plans, decisions and actions of resource managers and developers must forthwith abide by this law so as to allocate the use of the remaining commonly owned resources as rationally and equitably as possible.

We must recognize scarcity as a law of life. For then, coming to terms with it should make us more sensible, judicious and less profligate with nature's gifts. Moreover, this enlightened viewpoint renders the task less difficult and controversial for those entrusted with the ministry of a country's natural resources. In allocating the use of these resources, the Government often has to be wary of vested interests greedy for a lion's share of the wealth.

To get what it wants, vested interest can be cunningly subtle, such as in fabricating and circulating information that pretends to show the seeming abundance of a resource it wishes to exploit selfishly. A position that considers all resources as scarce easily exposes this ruse. To deal with such scarcity, the logic of choice dictates that we adopt a system of priorities in apportioning the benefits extracted from nature's fast-emptying storehouse.

I sometimes look at scarcity of resources as only a reflection of the scarcity of ideas. For consider the natural law that matter is never destroyed and the fact that no material ever leaves the earth. The resources that have been consumed are still existing in different forms, somewhere. What we need are new ideas, new technologies, innovative management and new perspectives to transform the used and diffused resources back into the mainstream of useful and desired goods.

If an infinite amount of everything we want can be produced, or if human needs are not increasing at exponential rates, then it would not matter if too much of any particular good is produced. Since this is not so, we have to determine what goods shall be produced and in what quantities; how these goods shall be produced; and for whom these goods shall be produced. On these three critical considerations rests the success of economic-development schemes in our world today.

An attempt to analyze the three ultimate questions in resource management brings me to the sixth key element or guidepost along our development path: right quantity.

The law of large numbers

TO BEGIN WITH, our civilization has been quick to respond to the urgent demands of its rapidly growing population. An agricultural revolution ripped across vast untouched land frontiers. It systematized large-scale farming and consolidated landholdings for more efficient use. It also introduced new high-yield crop species and more effective husbandry techniques.

In industry, starting in the eighteenth century entrepreneurs made use of mass-production technology to provide as many goods as possible to the greatest number of people-consumers. Mass production took over the solitary art of the craftsman. Contrast, for example, the brave stand of still existing small, independent shoemakers against the giant assembly lines of huge shoe factories where no worker ever finishes making a shoe all by himself.

The assembly-line system achieved its aim by introducing the specialization of functions and division of labor, by breaking up complex processes and reducing them to simple and repetitive operations, and by using standardized and interchangeable parts and automatic self-adjusting mechanisms.

Next to evolve were improved marketing systems, credit institutions that helped business through financing, the creation of research-and-development programs, and the establishment of centralized management systems. All these came into being as a result of the operation of what economists call the "economies of scale" or the "law of large numbers."

Because the assembly-line technology thrived on large-scale production and because the colonial pattern of trade resulting from the agricultural revolution demanded large-scale transfer of goods, there followed an irresistible trend for organizations and institutions to become ever bigger and more elaborate. The mania for growth by giant strides and in superproportion became the ethos of Western progress.

Bigness has its drawbacks

GIANTISM or the bigness of the production factors invariably rules against individual expression and personal values that do not conform to its work ethics. Critics have accused it of undermining the dignity of the person in favor of the efficiency of the machine and machinelike work operations. The creator of the machine has become an expendable part of a production system.

A sterile, automated assembly-line working environment can alienate and dehumanize a man. If he had earlier been self-employed, the change in the nature of his livelihood from customwork to routine work may drastically reduce his work appetite.

The observation also rings true that bureaucracies tend to be weighted down by red tape and become grossly inefficient, that big enterprises are impersonal and insensitive to abstract human values, and that tightly centralized organizations put a damper on freedom and the innovative spirit. Contemporary literature has numerous allusions to modern man being just a mere cog in the machine, a status humanistic writers bitterly bewail.

Bigness attracts the concentration of wealth and power in the hands of a few or an elite class. In the Philippines this can be seen in the large haciendas and big family-owned corporations.

Giantism also affects city life. In the absence of land-use planning, huge factories and industrial firms gravitate toward the urban areas. Soon the city finds itself saddled with urban blight, such as utilities overload, inadequate housing, traffic congestion, poor sewage and waste disposal, and environmental pollution.

By far the most adverse impact that giantism can inflict concerns the depletion of the world's natural resources. Since it possesses immense power and organizational strength, it could also muster them for a massive onslaught on nature's treasury. Governments around the world have come to subscribe to a universal declaration of intent to conserve and protect the earth's natural resources. But how many of them pay only lip service to this declaration? Some nations, especially the poorer ones, would allow maximum exploitation of their natural wealth with little thought on conservation in order to obtain immediate and much-needed economic gains. Or some infamous regimes would do alike, but mostly for the personal aggrandizement of the ruling elite.

At any rate, mindless and relentless exploitation of our planet's life-sustaining resources can spell the future doom of mankind. *The Limits to Growth* study, which I earlier commented on as being too morbid in its predictions, may actually be of good service in this regard.

While I still maintain that the redemptive and constructive, rather than the destructive, instinct in man will prevail in the long run, a sense of imminent danger is not at all irrelevant to our survival. It tears at our nonchalance and complacency and forces us to do immediate acts of restoration, such as reforestation or protection of fish and animal habitats. In more general terms, a redirection of our development growth.

Bigness, economies of scale, and planned social change as embodied in the Western-designed Development Decades have failed miserably. These foreign-aid programs are based on the mistaken belief that the transfer of billions of dollars and technical advice can liberate the Third World from poverty. We are now sadly aware that the Western approach has its limits—which are much narrower than we previously assumed, especially with regard to the engineering of social change. We have also come to realize that the big-scale industrialization of the West has undesirable side effects which could have cumulative and irreversible impact on ecological balance. We must learn to temper quantity with quality.

I mentioned some general observations on the phenomenon of bigness as it affects life today. It is not a total condemnation since I have yet to portray its bright side. Before I do that, let us first go to the opposite phenomenon—that of the small.

The tradition of the small

ALTHOUGH a great number of so-called efficiency experts continue to praise the merits of large corporations and of doing things on a grand scale, a movement has emerged espousing the virtues of the small against the big. Of the craftsman and home-based industries as better than the factory and its machines. Of low, "appropriate" technology being preferable to high technology. Of the rural village as a superior human habitat than the metropolis. And related other preferences in favor of the small-scale, the less dependent on conventional energy sources, the less pollutive, and the more humanistic.

As Filipinos, we have ourselves a cultural heritage of the small. More than one-half of our people still live in small nipa huts in small barrios. Around the country, the ubiquitous, customarily most patronized retail outlets are the small *sari-sari* stores. Our farmers traditionally cultivate small farms and are content with small blessings. Even the Filipino ego partakes of the term; shyness, one of its distinct character traits, is due to feeling small, but to be treated as small by a peer is a grave personal insult.

In his book *Small Is Beautiful,* E.F. Schumacher noted that the tradition of the small "embraces communal, handicraft, tribal, guild and village life styles as old as the neolithic cultures," and that "it is a wisdom gathered from historical experience. It has re-emerged . . . in the communitarian experiments and honest craftsmanship of the counterculture."

Champions of the small enterprise cite its greater freedom, innovativeness and inherent stability, since it is self-reliant. Being small, it is convenient to manage and flexible enough to be able to weather temporary setbacks and readjust itself to changing conditions. Because in all these activities the human factor is always present, the small enterprise is said to be more humane. It aspires for the social development of man while providing him gainful opportunities for economic well-being and self-expression.

Our own small enterprises

EVEN IN THE AFFLUENT country of the Americans, people are deliberately returning to the tradition of the small, to a life of voluntary simplicity and to a consumption and production by themselves of goods and products that are "functional, healthy, nonpolluting, durable, repairable, recyclable or made from renewable raw materials, energy-cheap, authentic, esthetically pleasing, and made through simple technology."

This renaissance of home and community livelihood activities is not a novel development in the Philippines. Among others, the country has been long known the world over for its cottage-industry products which are skillfully and exquisitely handmade.

Enjoying a good foreign and local market, native embroidered products and needlecrafts, bamboo and rattan furniture and fixtures, and processed foods are produced by some 95,000 cottage-industry groups, most of them home-based. It is a labor-intensive industry employing more than 300,000 workers.

A notable aspect of small enterprises in the Philippines is that the Government is actively supporting their growth and quality improvement. Thus, it gives cottage-industry producers tax incentives, marketing assistance and technical services through the National Cottage Industries Development Authority.

Another arm of the Government, the Cottage Industry Development Enterprises, sets up cottage-industry projects, especially in poor areas of the country. It has established small-scale food-manufacturing plants, scrap-recycling centers, woodcraft-production centers, brickmaking and related projects.

For some years now the Government has been paying special attention to the development of a wider spectrum of small- and medium-scale industries, including the making of leather footwear, furniture, garments and brassware. For this purpose, its Medium and Small-Scale Industries Coordinated

Program and the Commission on Small and Medium Industries are providing entrepreneurship development and consultancy services.

For credit assistance, small entrepreneurs may tap the Industry Guaranty Loan Fund. For the expertise and technological requirements, the Technology Resource Center of the Ministry of Human Settlements is on hand.

Our nation has much to gain from promoting the growth of low-capital, low-technology, community-centered business and livelihood enterprises. On one occasion, President Marcos expressed the importance of this point when he said, "No sector in our economy holds greater promise than the [one] made up of small and medium industries. Small and medium industries may very well provide one of the answers to economic development and full employment. For certainly, from this beginning, the bigger achievements will derive." I agree with him.

The question of quantity

AS WE CAN SEE, smallness has various merits. On the other hand, bigness claims a valid usefulness based on sound economic principles. What, then, should be the yardstick for development? How do we arrive at its correct size and right quantity?

These questions do not invite debate, for the subject of quantity or size need not be an either-or proposition. It need not be a dilemma where we have to anguish over what to choose.

As practical experience and observation show, there is a "duality of human requirement" when it comes to the needed size of institutions functioning in our society. Within these institutions, human activities lend themselves to appropriate scales and acquire particular meanings.

If we are to look for freedom and autonomy, we can find them being practiced in our corner variety stores, drugstores, hometown newspapers and research institutions. For creativity and innovation, we can look to our personally managed tailoring and dress shops, the art and photographic studios, and the small furniture-making shops. For intimate social contact, look for it in the family doctor's or dentist's clinics, in the neighborhood kindergarten schools, in barbershops.

However, we cannot do without the vital roles of larger institutions. We need the comprehensive reach, order, coordination, power and collective will of bigger enterprises like our Government, the military, public utilities, banks, the universities. Moreover, we need the contribution of large industries to the socioeconomic development of our nation.

Aiming for the big targets

RECENTLY, the Government unveiled plans for 11 major industrial projects. To serve as pillars of our economy in its eventual and inevitable transformation from a predominantly agricultural to a sufficiently industrialized one, these projects are a copper smelter, a phosphatic-fertilizer plant, an aluminum smelter, heavy engineering industries, an integrated steel mill, a petrochemical complex, a diesel-engine-manufacturing plant, expansion of the cement industry, rationalization of the coconut industry, development of alco-gas, and an integrated pulp and paper mill.

One can see that all these projects are big-scale and involve large capital and technological investment. Rightly so because we must resort to bigness to achieve big purposes and reach our big targets. The projects were designed to serve as lasting infrastructure of our future growth as a nation since they will generate the economic assets needed for development.

Some development experts recommend the adoption of labor-intensive, low-capital technologies as the right course for developing countries. They argue that these technologies are more apt to the needs of the developing countries, are conducive to self-reliance, are less culturally and ecologically destructive, and are more sustainable since natural resources will be conserved.

Other experts, however, see flaws in this argument. They point to the following "realities" in the poor nations, as listed by the academician John MacHale in an article he wrote with his wife, Magda Cordell MacHale, and published in *The Futurist*, the magazine of the World Future Society:

> ☐ The overemphasis on rural labor-intensive technologies runs counter to the evident desire of the people to leave rural occupations.
> ☐ Small-scale technologies may be appropriate to local needs but can hardly meet the larger requirements of growing national population and increasing world trade.
> ☐ The "pollution of poverty" is also culturally and environmentally destructive. Affluent high-growth countries have significantly cleaner environs than do the low-growth poor ones.

The authors go on to conclude that "the choice is not simply between 'alternative' technology and large-scale industrialization; obviously elements of both need to be adopted and there should also be an evolution of new modes of development to meet particular needs."

In our country we have promoted the growth of small and medium-scale, labor-intensive enterprises for the past two decades or so, and with remarkable success. However, it is not a sound policy to base industrial development solely on labor-intensive and small-scale industries. If we do so, we will forever depend on others for our own survival. We will be relying on imports of products and materials we cannot produce. We will be a nation of sweatshops, eking out a living by less profitable occupations or by prostituting our cheap labor to the service of processing the produce of other countries.

Nevertheless, the country's 11 major industrial projects do not necessarily displace our smaller enterprises. These will stay and perform a symbiotic role, each enterprise depending on the other. The establishment of linkages between the big and the small, in the present case, will result in mutually advantageous interrelationships.

An example is Japan, which has been fairly successful in neutralizing the monopolistic tendencies of giant industries. While its capital-intensive automotive and shipbuilding industries are managed by big corporations, the government makes provisions that product components needed by these industries are manufactured by smaller enterprises.

Bigness, Philippine setting

OUR COUNTRY can lay claim to a number of signal achievements because it chose to do them in a big way. In a historic turnabout, the Philippines in 1977 became a rice exporter, thus erasing the deplorable record of a rice-eating nation that could not raise enough of the basic food requirement of its people. Our Government was able to correct the anomaly because it chose the big strike. It launched a nationwide cereal-production campaign, enlisting the participation of practically all Government agencies and the private sector to form an integrated organizational common effort.

One of the key agencies in this food-production program is the National Grains Authority, now called the National Food Authority to further emphasize its role. This Government firm engages in large-scale cereal buying at prices that give farmers greater profit than before. It maintains huge warehouses placed at strategic points throughout the country, operates a large fleet of transport and bulk-storage systems, and uses the services of a network of some 60,000 grain retailers. The NFA also oversees a "Corporate Farming Program" which involves big private corporations in the national food-production drive. These corporations add farming to their activities as a subsidiary operation that provides their employees cheap or even free supply of the staple grain. This is one example of moderating the power of bigness with a social responsibility.

Another large merchandising agency of the Government is the Food Terminal, Inc. It has a huge depot and food-distribution complex in Metro Manila, as well as a planned national network of regional supply and marketing outlets. And there is the Philippine Fish Marketing Authority, under the Ministry of Natural Resources, which operates the country's biggest fishing port-marketing complex in Navotas, Metro Manila. The Authority will soon open similar facilities at a dozen sites elsewhere.

On another front, the National Electric Administration is a giant concern that touches the life of every Filipino as it now approaches its goal of lighting every home even in the remotest parts of the nation.

We can cite a score of other notable large enterprises, including the chain of first-class hotels which plays a major role in our new-found status as a premier tourist spot in Asia. We can also include the fact that the present city of Manila is one big social organization and human settlement combining the total area and population of 4 cities and 13 suburban towns. In this matter, the decision that transformed Manila into a metropolis fufilled our need for a bigger, more spacious and better-managed City of Man, without necessarily weakening the thousands of small communities that make up the metropolis. In fact, the formation of the *barangays* strengthens the feeling of community.

Smallness within bigness

MODERN CIVILIZATION has brought us to a stage of human development where large organizations became inescapably necessary. The geometric rise of our population, the multiplication of human needs, our increased mobility, the complexity of our interrelationships and the expansion of the frontiers of human endeavors—all these prescribe the adoption of the most efficient systems to bring order to human activities. These systems are often the large-scale systems of organization.

Indeed, it appears that bigness has become a permanent fixture of contemporary life. So we must think about it, theorize about it, and devise plans so that bigness can be made palatable and a likable institution and serve human purposes. Ultimately, this will involve our ability to accommodate smallness into and within bigness.

Schumacher advanced an interesting theory of large-scale organization which combined and integrated the best characteristics of small and big enterprises. The theory called for the division of the monolithic organization into many smaller, special, semiautonomous and self-contained units. This "structurization" of the large enterprise is intended to give the widest amount of freedom, innovation and creativity to the various units, though each of them receives order and direction from above.

A model in BLISS

THE BAGONG LIPUNAN Improvement of Sites and Services (BLISS) program of our Ministry of Human Settlements draws inspiration from Schumacher's "structurization" principle.

BLISS was launched in 1979 in response to the lack of housing, livelihood opportunities and other basic needs of our countrymen, especially the poor. At the outset, others shared the perception with me that these urgent needs could only be satisfied by a human-settlements approach—a "total" approach that places man's welfare and the improvement of his environment as the ultimate objective of all plans.

So BLISS adopts the humanistic, coordinative and integrative approach required by the type of human-settlements scheme suited to the problems and conditions in our country. Our overriding aim is to evolve communities that will be self-sustaining, self-motivated, self-reliant.

As of 1978 the housing backlog in the country has been estimated at 1.25 million houses. The actual need is for around

220,000 new houses a year. Unless eased, the aggregate need for housing by the year 2000 will be 20.3 million. Realizing the immensity of the problem, our Ministry set as first priority the construction, based on rational land use, of the physical infrastructure.

Initially, BLISS has scheduled the construction, within a period of five years, of model communities in each of the country's 1,500 cities and towns. These models will vary from one locality to another, depending on the needs of the residents.

The Level-I model is a neighborhood community of 50 to 100 families occupying an area of 2.5 hectares and enjoying complete basic services. The Level-II model is an agro-industrial community of 100 to 500 families living in an area of 50 to 200 hectares and provided with basic services, as well as viable industries to serve the economic needs of every province. The Level-III model is a farming community of 500 families in an area of 200 hectares, also given complete basic services in addition to multipurpose irrigation systems that will intensify agricultural production.

These models are designed to exert a "spread," or "ripple," effect on surrounding areas so that they will serve as a development paradigm.

To ensure that people will not only have a roof above their heads but also sustenance, we have initiated a BLISS Livelihood Program in 212 (and soon, an additional 235) BLISS housing communities spread all over the archipelago. This program introduces and generates gainful occupations as explained in livelihood kits and manuals given out to the residents. After they learn the job, these people are expected to share their experience with other neighboring communities. This way, livelihood becomes a household word and, so, self-reliance for each family is assured.

All these significant aspects of the BLISS program are the result of its unique but practical "structure." Each BLISS unit is a structure in which every resident is given full leeway to practice his skills and creativity, discover his potentials, solve his problems satisfactorily—even as the unit is supervised and guided by a higher umbrella of authority, the Ministry of Human Settlements.

This logic of subsidiary function—a logic which assimilates the best features of both small and large enterprises—is, however, the very same justification for the Ministry's hesitance to supply all the basic requirements of every BLISS unit. To do so is to legitimize doleout or parasitic dependence. Because these BLISS services and facilities are freely given, the recipients may be so pampered as to lose their desire to work independently in order to secure these amenities to themselves. The Ministry, therefore, acts not as a relief center but as an active, ever protective partner in the grand enterprise of discovering and rediscovering the wholeness of man.

I believe that we have struck a balance between the big and the small in the BLISS concept. The big is represented by the Ministry of Human Settlements and cooperating Government agencies. It provides direction, coordination and management expertise. The small is represented by all the BLISS units, which react to the supervision with their own kind of positive actions. The interaction between the two is an exciting drama of cooperation, rooted as it is in the overarching goal to satisfy the human wants of all Filipinos by making the best use of their own resources.

Toward the maximum whole

WHEN WE SPEAK of "right quantity," the focus is on the attainment of quantitative growth as we tread along our development path. If we consider ourselves at this moment of our history as a developing poor nation, then the topic is indeed very relevant, since it addresses itself to the problem of satisfying the basic human needs of people for survival, and self-fulfillment in body, mind and spirit. Right quantity is that magnitude of attainment between the minimum whole and the maximum whole, which maximizes human happiness.

Right quantity immediately proceeds to right quality, as discussed in the next and last chapter of this book. The transition is significant in the light of the "first-floor" and "second-floor" needs of human development. The first refers to the very basic human needs and mainly involves the question of poverty. The second concerns people who are relatively excluded from the hunger line but deserve a higher quality of life. It includes the right to greater social freedom and mobility, the pursuit of less mundane but meaningful occupations, the enjoyment of the arts, emotional satisfaction (love, respect, volunteerism), and self-realization and personal growth.

In short, I shall attempt to elucidate on the paths to the maximum whole.

Right Quality

Chapter 7

MAN, ASSERTING HIS NATURE as *homo economicus*, dominated in the past two centuries by imitating the labor of the worker ant. His was the same ceaseless going to and fro, gathering, loading and unloading mass of economic goods to build up a hoard which he called "Progress." Endless production of goods and services became his obsession. And to keep tab of what he and his colony had produced, he invented the GNP. The gross national product would tell him if they had idled a bit during a year and failed to achieve a minimum growth rate of at least six percent or so.

Of course, the industrial West has been the main venue of this overwhelming quest for material gains. There, economic growth, modernization and productivity were until recently the be-all and end-all of development. Economic theories about this phenomenon abound, but I will not dare agree or disagree with how Keynes, or Ricardo, or Adam Smith explained it.

As it is, economics today is a camp with many discordant voices heard. The political scientist Irving Kristol noted that something like a crisis in economic theory exists at present. It is attested to, he said, "by the fact that this body of *undisputed* theory is shrinking before our very eyes, not growing. More and more of the intellectual energy of economists, these days, goes into the *dis*-establishment of what our university textbooks still proclaim with serene confidence. Almost everything —almost every concept, every theorem, every methodology— in economics today has become fair game for controversy."

But just the same, and as a non-economist, I do wish to ask if economic growth for growth's sake is always desirable, or sufficient. Industrial growth, abetted by modern technology, indeed increased the wealth of nations and the physical welfare of their peoples. However, it has not, according to René Dubos, necessarily brought us the kind of wealth and health that generate happiness. In his Pulitzer Prize-winning book *So Human an Animal* Dubos wrote: "High levels of prosperity can create a whole range of undesirable situations accumulating throughout the whole life span: Environmental pollution, excessive food intake, lack of physical exercise, the constant bombardment of stimuli, the inescapable estrangement of civilized life from the natural biological rhythms."

Nowhere else are the adverse impacts of growth more visible than in the cement jungle known as the industrial city. Here is where the pollution of affluence is both a physical and spiritual malady. No wonder Western urbanites almost always complain of ulcers, respiratory ailments, and cancer more than we do. Many of them drift through life like zombies, uncaring and uncared. Often this alienation assumes the form of a psychological condition which the social critic Christopher Lasch describes as "the narcissistic personality of our time."

People manifest this personality in, among others, a "dependence on the vicarious warmth provided by others combined with a fear of dependence, a sense of inner emptiness, boundless repressed rage, and unsatisfied oral cravings." In addition, Lasch says, "the narcissist has no interest in the future because, in part, he has so little interest in the past. He finds it difficult to internalize happy associations or to create a store of loving memories with which to face the latter part of his life, which under the best conditions always brings sadness and pain."

The dehumanizing effects of economic growth usually become a syndrome in highly industrialized societies. But they may be our lot if we do not fight them off in time.

Such problems need never occur if the priorities of development are centered on people, rather than on things. True, development will almost always require an increased national product or a better balance of trade, but these and other "hard" economic factors alone are not the real measure of development. The ultimate justification of development is the extent to which it is able to touch and improve the day-to-day quality of life.

Real growth means the growth of the truly human attributes of man, his intellectuality, artistic creativity, compassion and physical virtues. In short, it is the development of his body, mind and spirit.

The human credo

THE BIBLE says that man does not live by bread alone. Nor through his sweat alone, for he is as much a *homo economicus* as a *homo sapiens*, or a wise and thinking creature. Indeed, his being an *economicus*-craftsman derives from his being a *sapiens*-ideator.

A development scheme that aims for quantitative and qualitative results therefore takes into account the duality of man. It reconciles the urgent needs of the body with the imperious demands of the soul. After the bodily thirst is quenched, it delights in further edifying the human spirit by intensifying the concern over the quality of man's physical and social environment.

A program like it would look into the quality of urban and rural life, for example, and into such a matter as the nature and condition of human employment. Already, new concepts of work enrichment and human engineering are filtering into our offices and factories, such as the assignment of back-breaking tasks or dull, repetitious routines, previously handled by men, to machines and computers. Also, our workers are having more say in their employment conditions. Through their unions and a sympathetic Government, they are winning privileges like the thirteenth-month pay, paid vacation leaves, insurance coverage and seniority privileges.

A man's work or employment must no more control and rule his life, as he should now manipulate it for his social fulfillment and self-realization.

The philosophy that puts man in the center of things is not new. It has deep roots in the history of ideas.

As early as the fifth century B.C., Protagoras proclaimed: "Man is the measure of all things; of those that are, that they are; of those that are not, that they are not." Later philosophers, like John Dewey, William James and F.C. S. Schiller, sustained this line of reasoning. The body of thoughts it embraces has come to be popularly known as "humanism."

Humanism, the idea and the way of life which has as its central concern the realization of the fullest human career, requires that as we build shelter for the body, so we must also build sanctuary for its spirit; as we provide employment to the *economicus,* so we must also extend creative vocation to the *sapiens;* and as we treat our weary muscles to relaxation and our eager senses to leisure, so we must also offer our mind and inner self the reward of quietude and contemplation.

A time for leisure

THE IDEOLOGY OF HUMANISM is not a sophisticated formulation for and by the elite in society. For example, in creating venues and opportunities for leisure, we make it very explicit that they are open to the rich and poor alike, to the young and elderly, to the healthy and the handicapped, to all kinds of people.

For this reason the Government considers the building of new and improvement of old public parks and plazas a service to all Filipinos and their guests. Through our National Parks Development Committee, we have restored Manila's historic Fort Santiago, which bore painful memories of the last World War, the old Paco Cemetery and other living reminders of storied chapters in Philippine history. Among them is Intramuros, which we are restoring stone by stone to re-create the grandeur of this Walled City, a relic of our Spanish heritage. We have also built entirely new and beautiful parks, such as the *Nayong Pilipino,* which shows off the Philippines in miniature representations of its culture, architecture, landmarks and the like. In these places, man as a Filipino can contemplate or reflect upon his growth and evolution.

Our best achievement in universally demonstrating our concept of leisure-places is perhaps the now internationally famous Rizal Park. Formerly called Wallace Field and an open area on the shore of Manila Bay whose claim to history is the spot on it where Jose Rizal, the national hero, was executed by the Spanish colonial government in 1896, the park was a dusty wasteland until 1969. Today it is a 60-hectare garden and a recreational landmark visited by thousands of local residents and foreign tourists, especially on weekends. The Rizal Park includes a hallowed ground and monument to the national hero, an open-air auditorium for concerts and other musical programs, a man-made lake, water fountains and various other attractions.

We are also trying to make leisure a meaningful experience through the cinema. But film, which as a unique creation is considered the art of the twentieth century, that will project the authentic image of the Filipino. We must make movies that do not cheapen our womanhood or manhood, nor exploit sex and violence as themes. The Filipino audience deserves films that transmute its innate and nobler longings, hopes, sense of value and feeling for beauty. Toward this end, we have chosen a small collection of model Filipino films, some even making it to the prestigious Cannes Film Festival and other venues.

We shall explore and exploit the medium for its true entertainment and civilizing values. And we intend to bring our films on a par with those made abroad by consummate directors and artists. For this, we have the Film Institute of the Philippines now operating as part of the University of the Philippines system. In 1982 we shall hold an International Film Festival in Manila, which should draw the most talented, most creative personalities in the international cinema.

Lastly, in the pursuit of leisure, we may profit from Isaac Bashevis Singer, the 1978 winner of the Nobel Prize for Literature. He was speaking of literature as written, but his words are just as apt for the art of the cinema.

Singer spoke: "The storyteller of our time, as in any other time, must be an entertainer of the spirit in the full sense of the word, not just a preacher of social and political ideals. There is no paradise for bored readers and no excuse for tedious literature that does not intrigue the reader, uplift his spirit, give him the joy and the escape that true art always grants."

The cultural imperative

ABOVE AND BEYOND LEISURE, the development process must be able to incorporate the promotion of art and cultural growth. Leisure allows people to spend time in a wholesome manner, but the enjoyment of art is a deeper, more rewarding experience.

Some development experts, engrossed as they are in the provision of the basic material needs of men, may scorn at the mere mention of the term "art" or "culture" in development forums. To them, art or culture is a luxury beyond the province of economic development.

However, profounder economic thinkers are more and more enlarging the vision of their discipline. For one, John Kenneth Galbraith commented:

> There's an instinct that the last frontier of economic development has to do with science. There is, I think, a further frontier that is essentially artistic in character—the world of beauty and taste. The small entrepreneur, the individual, has very great advantages in this world. And many of the firms that survive in the market system have an artistic rather than a technological orientation.

This is a very helpful insight, one we can just as well use in our overseas economic relations. To develop our competitiveness in the international market, our strategy may well be to capitalize on our artistic genius in order to compensate for our lack of technological skills.

There are others like Galbraith who are reshaping the landscape of economic thought. Roy Preiswerk would reconcile the "basic needs" of food, clothing, shelter, health, work and education with *cultural* identity to promote "another kind of development."

Instead ot the usual food-clothing-shelter division, John Galtung of the University Institute of Development Studies at Geneva has proposed the breakdown of human needs into four categories—welfare, security, freedom and identity. This considerably expanded the scope of the study on basic needs by focusing attention on certain requirements of life that are qualitative.

Indeed, we should not be so destitute as to let art and beauty escape our grasp. Neither should we, who are in a position to advance or foster art and culture, be niggardly in our support. If we fail in this moral obligation, our society may slowly degenerate into a society of spiritual retardates and cultural cripples. What we should aspire to is to establish a nation of responsive, creative, total men and women.

On this issue the vision of the concerned sector in our society has not been wanting. In 1969, against all odds, the Cultural Center of the Philippines rose up to become the sanctuary of the Filipino soul. It has since then enriched the mind and spirit of a large number of our people. For everyone involved and present takes part in the unfolding and expression of the Filipino genius—in stone and story, in dance and drama, in music and color.

Five years later, in 1974, there followed the construction of the Folk Arts Theater within the CCP complex. Folk arts represent a vital dialectic of our being as they assert the ancient and perpetual yearning of men for synthesis, for unity of the self with other selves, for reconciliation between the individual and the community, between tradition and innovation. It is but fitting that we provide the Filipino communal spirit haven and expression.

We shall provide more outlets for the Filipino performing artists. A recent addition is the Metropolitan Theater in the heart of old Manila. This theater was older than the rest, having been a cultural landmark in the 1930s. But the war claimed it as a victim, and for some years afterward only its skeleton stood to remind oldtimers of what a grand lady she used to be. We reconstructed her old self from the rubble, and now the Metropolitan is again a cultural beauty.

Tribute to the artist

TO CONTENT OURSELVES with being recipients of the artists' gifts is a selfish act. We must also pay tribute to them. For the artist is both creator and preserver of human values. He is a vital and vibrant actor in the development drama.

The immediate need for the means of material growth has often obscured the role of the other inputs for spiritual development. It is the artist who, nevertheless, crystallizes this role and galvanizes us to empathize with his lonely and sullen craft. I have, on many occasions, pleaded, probably with much bias, for the artist's due. The artist is the endangered species in our time. While we often grant generous incentives to businessmen, we are amiss or give too little endowment to our artists. At least our development attitude should be not to tip the balance too severely against artistic growth as we strive for economic stability.

We began doing something about this in the early seventies. Our most notable vehicle has been the National Artist Awards, which officially affirmed the Government's patronage of the artistic and literary talents of our people. The Award is given in recognition of an artist's commitment to his craft, often lasting a lifetime, during which time he produced a body of work approximating the highest standard of artistry. Moreover, the totality of the work should reflect the essence and mystique of the Filipino soul at whatever given historical time they found expression.

So far the Award's hall of fame enshrines 15 names, those of Fernando Amorsolo, Carlos V. Francisco, and Victorio Edades, for painting; Amado V. Hernandez, Jose Garcia Villa, and Nick Joaquin, for literature; Juan F. Nakpil and Pablo Antonio, for architecture; Francisca Reyes Aquino and Leonor Orosa-Goquingco, for dance; Antonio J. Molina and Jovita Fuentes, for music; Guillermo Tolentino and Napoleon Abueva, for sculpture; and Lamberto Avellana, for drama.

Art being universal, an International Artist Award is also conferred on foreign artists who have contributed to the advancement of the art and culture of the country. The renowned American pianist Van Cliburn and British prima ballerina assoluta Dame Margot Fonteyn have received this award.

We have not limited our appreciation to artists who have already distinguished themselves. We are equally sensitive to the needs in nurturing those who are just beginning to demonstrate exciting talent.

In 1973 we inaugurated the National Arts Center in Mount Makiling, Los Baños, Laguna, to house and train our budding artists. The Center aspires to be the Filipino academy of the arts, a place for the fullest development of man as artist and artist as man. Sheltered from distraction and luxuriating in the sunshine and cool mountain air, the site is an ideal environment for disciples of the muses to work, study and perfect their art. More than a school, the center is a community of gifted men and women and a living proof of our society's commitment to the divinity in man.

In music we had a kind of renascence in the seventies which was one of the cultural hallmarks of that decade. It was due in part to the joint efforts of the Music Promotion Foundation, the *Kapisanan ng mga Brodkaster sa Pilipinas* and the Cultural Center of the Philippines.

The music breakthrough came to be known as "the Filipino sound" and has been distinctive for its unique melody and lyrics expressive of contemporary as well as traditional feelings among Filipinos. Composed and sung by native musicians, local songs and music which were formerly relegated to obscurity by foreign compositions took over the airlanes and have since then recaptured the Filipino heart.

One of the key factors in the resurgence of Filipino music and local musical talents is the Metro Manila Pop Music Festival. This annual affair offers contest winners cash prizes, prestige and the opportunity to compete in international music festivals. It has become the breeding ground of talented young musicians; from it have originated most of our contemporary musical classics, a number of them even gaining recognition abroad.

Today our local music is the true, good and beautiful sound to a Filipino's ear. It is no longer considered déclassé, nor does it pale beside foreign musical counterparts.

The social function of art

ART HAS A SOCIAL FUNCTION, although some would rather confine it as a purely mental and spiritual exercise. Antifunctionalists in art may also argue that what is beautiful may be useless; that beauty is irrelevant to the object's intended purpose or use. This point, clarified most succinctly by Kant, is well taken.

But some artistic endeavors require that what is beautiful be at the same time useful. This is most evident in architecture.

Since the Renaissance the architect has been known mostly as a designer and builder of practical, sound and durable infrastructure. Thus, to him has been assigned the construction of homes, mansions, schools and public buildings. Later, he added town planning and design and construction of railway stations, bridges, factories, warehouses, airports, shopping centers and geodesic domes. Because of this, it may be argued that the architect is more of a scientist than an artist since he subscribes to the science of engineering and related disciplines for the integrity of his work.

In other words, the architect is utilitarian and cannot be an impetuous, imaginative and subjective artist. There is a flaw in this attitude, which can be attributed to our tendency to perceive things as "separates," as in the orthodox Cartesian delineation of the "mind" as independent of the "body." This mental bias prevents us from seeing the essential wholeness and unity binding all visible and invisible things.

An unmuddled frame of mind should make us see that the scientist and the artist can be one in the person of the architect. Art critic Herbert Read alluded to this in his book *Education Through Art.* He wrote: "In the end I do not distinguish science and art, except as methods. Art is the representation, science the explanation, of the same reality."

In large measure, the architect in every generation recorded in brick, stone and mortar, in iron, steel and glass, the ideals and aspirations of his age. I see the architect, therefore, as a man committed and at the service of improving the human condition by delighting the human spirit with beauty, the mind with order and logic, and the body with comfort and security.

In our own society, I believe that enough challenges are present for the Filipino architect to practice his art with more creativeness, innovativeness and social conscience as he builds the right house we need and the public building, business edifice, school, church, hospital and recreation center that, rightly constructed and taken together, form a total community architecture.

Although we have barely started, the projects that were so far initiated along this concept invite some attention. The "Bahay Filipino" Awards exemplify our search for the authentic Filipino house, one that is beautiful and innovatively built of low-cost materials as to be affordable by low-income families.

In building this prototype house, we aim to return our traditional styles of construction in which shapes, materials used, construction methods, space allocations and ritual purposes are integrated in memory of our historical and racial heritage. For instance, it shall have a steep roof with wide overhangs to keep out both rain and the heat of the sun, wide windows and verandas, elevated floor, lacy transoms, and sections and fixtures using Philippine hardwood, corals, river stones, and coconut and bamboo products.

However, we would be naive and impractical not to use modern technology in constructing our houses and other buildings. The affinity with our past, coupled with our advantageous use of modern technology, can be seen in our BLISS Housing Program and in the *Kapitbahayan* project in Tondo, which was the first result of our urban-renewal program.

On another front, we have built, and continue to build, hospitals and medical centers. The Philippine Heart Center for Asia is a hospital that is an architectural marvel. But, more important, it holds an equally impressive array of equipment and facilities for treating heart diseases, which are available to all heart patients irrespective of their stations in life. The Center is expanding with a Lung Center currently under construction. Equipped with the most modern techniques and facilities, this new center will help combat tuberculosis, still a major killer disease in our country.

Architecture is not the only art with an inherent social function. Craftsmanship, or the art of designing the appearance and quality of goods, is one other.

In the past, many of us were rightly accused of possessing a colonial mentality as we expressed it in our preference of foreign-made products over locally produced goods. But, to be fair, this colonial bent was abetted by the inferior quality and appearance of our products. If it wasn't the basic ingredients, the problem lay in the poor design and packaging.

To solve this problem, we gathered a core of talented Filipino graphic artists, quality-control technicians, and management experts to man the Design Center of the Philippines. This Center is charged with the task of upgrading the quality and appearance of Philippine-made goods like furniture, toys, leatherware and footwear, handicrafts and the like. Its annual competitions have generated widespread response that has resulted in the production of a wealth of excellent designs and models eagerly adopted by local manufacturers of various products.

The Government's commitment to art and culture, though lately begun, is already paying off in terms of certain noticeable improvements in the quality of Filipino life. For sure, we need more economic goods and services like energy, water and transport, but the total meaning of life certainly does not depend on them alone. Our humanness must be satisfied with nonmaterial "inputs," too, so that it can produce "outputs" of perhaps far more lasting benefit.

We gain nothing if in achieving material goals, we sacrifice the integrity of our heritage, our mind and the nobility of our spirit. Development should be "the pursuit of life's higher significance," and so the task should reach out beyond our preoccupation with the gross national product. It should aim also at increasing the gross national welfare.

Concern for the minority

MEANINGFUL LEISURE, the arts, the "cultural imperative" and their implications are just one dimension of the humanist ideology we are trying to evolve. There is another: our concern for the minority in our society. After all, the humanist ideology postulates a society, a community, an environment, and a nation for *all*. This means we must obtain a condition in which anybody, of whatever creed or belief, of whatever cultural background, can fully realize himself. The programs for our Muslim brothers are based on that consideration.

Enriched by our contact, as well as touched by their plight, we saw in the Muslims who have migrated to Manila an opportunity to demonstrate our concern for the whole Islamic population of the country. This is the Maharlika Village built in 1978 for Muslim residents of Manila. The Village accommodates more than 1,000 families and provides an environment reminiscent of their traditional surroundings, but equipped with modern amenities like water, light, recreation, food distribution, sewerage and waste-disposal systems.

We are also aware that spiritual development is a need of both Christians and Muslims and that all religions of the world share a common theme, just as all men share a common humanity. A beautiful mosque in the heart of dominantly Christian Manila attests to this. It may be a modest gesture of concern, but in the Southern Philippines itself one may be able to discern the real magnitude of the programs of our Government for Muslim welfare.

For a good reason, I am interested in the cultural aspect of our development efforts in Mindanao. The Muslim culture is so rich and replete with attitudinal values, wisdom, skills and viable institutions that may well provide the needed insights into our development problems.

For example, I am reminded that it was Caliph Ma'mun who created the "House of Wisdom," that famous center of learning which included a library, a translation bureau and a school. As one historical account said, "Many scientific terms with Arabic roots, from Algebra to Zenith, reflect to this day Islam's activity in the fields where knowledge was widened and human suffering decreased."

A viable Muslim institution that fits into national development plans is the Amanah Bank, founded in 1974. Set up by the Government but following the Islamic concept of *amanah,* or "trust," the Bank enters into partnership with Muslim entrepreneurs under a system where neither deposits nor loans earn interest. In recognition of traditional land tenure, the Bank allows a Muslim farmer to use his land as collateral for borrowing even though it may not be covered by the usual Torrens title. The Bank is an invaluable credit agency for the development of Mindanao.

I have argued, if perhaps inadequately, that Right Quality is a necessary and an inseparable adjunct to Right Quantity in the attainment of our development objective. It must be a component of all the tools of development we can muster, including technology, organization and timing mechanisms, as discussed in this book.

Moreover, I choose to discuss the subject of *quality* at the last moment, or as a final chapter, because if we come to think of it, it is *quality* that distinguishes us from all other creatures and makes us blessedly unique among God's creations. It is *quality* that gives our life meaning, beauty, color and eternal preciousness. So take away *quality* and what else is worth living for?

Epilogue

THERE ARE TWO ELEMENTS in the Chinese symbol for crisis: one signifies danger and the other stands for opportunity. In this present era of the convergence of crises, the implicit wisdom contained in the Chinese symbol is an attractive insight into and basis for our optimism. The pessimists see crisis only as an ominous danger. They hold a defeatist and elegiac view of our nation and its future. This is abetted by the recent elegies of doom, such as *The Limits to Growth* and *The Global 2000 Report.*

On the other hand, while I view the age of crisis as a time for qualitative change and redirection, we must be careful not to indulge in ineffectual rhetoric of optimism. The prescriptions I have proposed in this book and the tasks I have set for myself arise from considerations of realpolitik.

The sowers of dissidence do not care if their cultural heritage is destroyed so long as they impose their ideology. As I have pointed out, ideology alone has not saved man from the misery of poverty, ill health and deprivation. Only know-how, technology and individual industriousness will provide the true deliverance.

I am constant and content in my belief that society can achieve redirection through the willful and conscious intervention of men rather than by violent and convulsive changes forced upon men. So I look at September 21, 1972, as the benign moment in our history—the moment when the old society was sufficiently shattered to make the idea of a New Society attractive, attainable and pragmatic. It was a moment of renewal: the reshaping of our public institutions into efficient and purposive entities, the germination of a new way of life.

To me, the more significant change induced by martial law is the reorientation of our inner state of being—the rediscovery of the human center as the focus of all our development concerns. More than anything else, martial law catalyzed an intellectual and spiritual shift in the persons of leadership.

I have always said that national development must begin in the Filipino mind. We must will our own liberation from the bondage of poverty. We must create right concepts to illuminate the paths to progress. Development is not just the responsibility of Government. The individual Filipino must pursue his own betterment. He cannot be absolved of this responsibility.

Looking back at the projects I have initiated and the causes I have championed, I would like to believe that I have achieved something of permanence, something of value. Some academics and elitists often deride these innovations from the viewpoint of privileged hostility. We cannot progress, we cannot advance and we cannot overcome by mere incantations of slogans and derisions. *There is no known substitute for hard work.* We must define and develop right technologies and right organizations. We must cultivate civil tolerance for one another. We must promote a new awareness of national citizenship that will transcend the traditional divisive pull of extended families and regional identities. We must be propelled by love and not hate. We must search for the positive and not the negative.

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